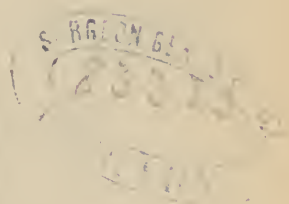
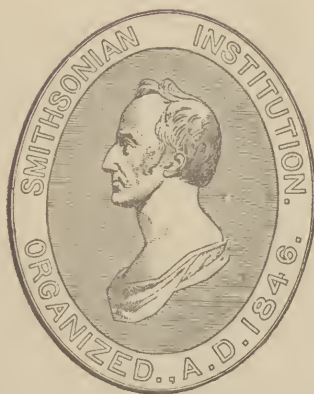


JAMES SMITHSON

AND HIS BEQUEST.

BY

WILLIAM J. RHEES.



WASHINGTON:
PUBLISHED BY THE SMITHSONIAN INSTITUTION.

1880.

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ADVERTISEMENT.

The materials for a biography of James Smithson are exceedingly scanty, and no life of him has ever been published. Efforts have several times been made by the Smithsonian Institution to procure facts and incidents relative to its founder, and during the present year unusual exertions were put forth for this purpose.

Nothing new has been elicited however from these recent inquiries, and Mr. Rhees has collected all the information likely to be obtained and presents it, for the first time, as an authentic account of the distinguished man who was no less noted for his own scientific attainments than for his remarkable bequest.

The following pages include a sketch of his life, list of his writings, notices of his death, and tributes to his memory.

It also gives a concise account of the manner in which the legacy was obtained by the United States, of the legislation of Congress in relation to its acceptance and disposition, and of the final passage of the "Act to establish the Smithsonian Institution."

SPENCER F. BAIRD,

Secretary of the Smithsonian Institution.

WASHINGTON, *October, 1880.*

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JAMES SMITHSON

FROM A PAINTING BY JOHNS 1816.

JAMES SMITHSON AND HIS BEQUEST.

BY WILLIAM J. RHEES.

JAMES SMITHSON was born in England about the year 1754, the precise date and place of his nativity being unknown.* He was a natural son of Hugh Smithson, first Duke of Northumberland, his mother being a Mrs. Elizabeth Macie, of an old family in Wiltshire of the name of Hungerford. Nothing has been learned of her history.

Hugh Smithson, his father, was distinguished as a member of one of the most illustrious houses of Great Britain, and also because of his alliance with the renowned family of Percy.

The Smithson baronetcy arose with an earlier Hugh Smithson, the second son of Anthony Smithson, esq., of Newscome or Newsham, in the parish of Kirby-on-the-Mount, Yorkshire, who was thus rewarded by Charles II in 1660, for his services in the royalist cause during the civil wars. His grandson, Sir Hugh Smithson, married Elizabeth, daughter of the second Lord Langdale, and had two sons. Hugh, the eldest, died unmarried, before his father; Langdale, the second son, married Miss Revely, by whom he left one son, Hugh. This son succeeded his grandfather as Sir Hugh Smithson, of Stanwick, in 1750, and was the father of the subject of the present sketch. He married Lady Percy on the 16th July, 1740. Her father inherited the Dukedom of Somerset in 1741, and was created Earl of Northumberland in 1749. On his death, in 1750, Sir Hugh Smithson succeeded to these honors and on the 22d of October, 1766, was created first Duke of Northumberland† and Earl Percy, with succession to his heirs male; and finally in 1784 the barony of Lovaine of Alnwick was added to his accumulated dignities.

The Duchess died in 1776. The Duke survived till 1786,‡ and was succeeded by his son Hugh (half brother of James Smithson), as the second Duke of Northumberland.§

Hugh Smithson, the first Duke of Northumberland, had (besides James Smithson) another natural son, who was known as Henry Louis Dickinson. He received a good education, entered the military service, was commissioned lieutenant-colonel on the 1st of January, 1800, and on the 4th of August, 1808, took command of the Eighty-fourth Regiment of Foot. He saw active service on the Continent and in Asia and Africa. His estate was left to the care of his half-brother, Mr. James Smithson, in trust for the benefit of his son, and this was probably the source of a large part of the fund which eventually came to the United States.

* See Appendix. Note 3.

† There was a previous Duke of Northumberland who died without issue in 1716, and the title became extinct.

‡ See Appendix. Note 2.

§ See Appendix. Note 3.

The possession by the first Duke of Northumberland of titles and dignities only inferior to those of royalty was of little consequence to his son James Smithson. Deprived by the bar sinister on his escutcheon from claiming the family name and honors, he nevertheless aspired to win a fame more universal and lasting than these could have bestowed upon him. He devoted himself to original research in the field of science, and sought to be known and honored by his fellow-men as a discoverer of new truths. Moreover, he resolved to attach his name to an institution unique in its character, noble in its object, and universal in its beneficence, of which John Quincy Adams has well said, "Of all the foundations of establishments for pious or charitable uses which ever signalized the spirit of the age or the comprehensive beneficence of the founder, none can be named more deserving of the approbation of mankind."

Smithson's feeling in regard to posthumous fame was strikingly expressed in the following sentence found in one of his manuscripts.

"The best blood of England flows in my veins; on my father's side I am a *Northumberland*, on my mother's I am related to kings, but this avails me not. My name shall live in the memory of man when the titles of the Northumberlands and the Percys are extinct and forgotten."

As Prof. W. R. Johnson has well observed in speaking of Smithson: "The man of science is willing to rest on the basis of his own labors alone for his credit with mankind, and his fame with future generations. In the view of such a man, the accidents of birth, of fortune, of local habitation, and conventional rank in the artificial organization of society, all sink into insignificance by the side of a single truth of nature. If he have contributed his mite to the increase of knowledge; if he have diffused that knowledge for the benefit of man, and above all, if he have applied it to the useful, or even to the ornamental purposes of life, he has laid not his family, not his country, but the world of mankind under a lasting obligation."

The eloquent words of John Quincy Adams in reference to the fame to be conferred on Smithson by the successful accomplishment of the great design he had in view by his bequest are appropriate in this connection.

"The father of the testator upon forming his alliance with the heiress of the family of the Percys, assumed, by an act of the British Parliament, that name, and, under it, became Duke of Northumberland. But renowned as is the name of Percy in the historical annals of England; resounding as it does from the summit of the Cheviot Hills to the ears of our children in the ballad of Chevy Chase, with the classical commentary of Addison; freshened and renovated in our memory as it has recently been from the purest fountain of poetical inspiration in the loftier strain of Alnwick Castle, tuned by a bard from our own native land (Fitz Greene Halleck); doubly immortalized as it is in the deathless dramas of Shakspeare; 'confident against the world in arms,' as it may have been in ages long past and may still be in the virtues of its present



MISS SWINER
AT OXFORD JULY 1880

possessors by inheritance, let the trust of James Smithson to the United States of America be faithfully executed by their representatives in Congress, let the result accomplish his object, 'the increase and diffusion of knowledge among men,' and a wreath of more unfading verdure shall entwine itself in the lapse of future ages around the name of SMITHSON, than the united hands of tradition, history, and poetry have braided around the name of Percy through the long perspective in ages past of a thousand years."

The Duke of Northumberland provided a liberal education for his son James, who pursued his studies at Oxford University, where he became attached to Pembroke College, distinguished for having among its fellows the learned Blackstone, the eloquent Whitfield, and the celebrated Dr. Samuel Johnson. Here the young student was noted for diligence, application, and good scholarship, and attracted marked attention by his proficiency in chemistry. His vacations were passed in excursions to collect minerals and ores which it was his favorite occupation to analyze. At Oxford he received the impulse for scientific research which characterized all his future life, and the ardent desire not only to advance knowledge himself but to devote in after years his whole fortune to provide means by which others could prosecute this high and noble pursuit.

He was graduated at Pembroke College on the 26th of May, 1786, as JAMES LEWIS MACIE,* by which name he seems at that time to have been known, and which he retained for about fourteen years, when he adopted that of JAMES SMITHSON.†

Smithson never married, and as a man of wealth had ample opportunity for leisure or the indulgence of mere personal gratification. But idleness and pleasure were not compatible with the spirit and ardor of the young student of chemistry. He diligently pursued his investigations, and his ambition to become associated with the votaries of science induced him to seek membership in the Royal Society of London.

"The Royal Society of London," says Arago, "enjoys throughout the whole kingdom a vast and deserved consideration. The philosophical transactions which it publishes have been for more than a century and a half the glorious archives in which British genius holds it an honor to deposit its titles to the recognition of posterity. The wish to see his name inscribed in the list of fellow-laborers in this truly national collection beside the names of Newton, Bradley, Priestley, and Cavendish, has always been among the students of the celebrated universities of Cambridge, Oxford, Edinburgh, and Dublin, the most anxious as well as legitimate object of emulation. Here is always the highest point of ambition of the man of science."

* So given in the Oxford Catalogue. In the *Philosophical Transactions* and the *Gentleman's Magazine* the name is given as James *Louis* Macie.

† His second paper in the *Philosophical Transactions*, 1802, is by James Smithson. Sir Davies Gilbert, in his eulogy of him in 1830, calls him James Lewis Smithson.

The following is the official recommendation of his application to the society, bearing the signatures of some of its most illustrious members :

“James Lewis Macie, Esq., M. A., late of Pembroke College, Oxford, and now of John Street, Golden Square—a gentleman well versed in various branches of Natural Philosophy, and particularly in Chymistry and Mineralogy, being desirous of becoming a Fellow of the Royal Society, we whose names are hereto subscribed do, from our personal knowledge of his merit, judge him highly worthy of that honour and likely to become a very useful and valuable Member.”

RICHARD KIRWAN.

C. F. GREVILLE.

C. BLAGDEN.

H. CAVENDISH.

DAVID PITCAIRN.

He was admitted a fellow on the 26th of April, 1787, in less than one year after leaving the university.*

Smithson's lodgings for some time were in Bentinck street, a locality famous as the place where Gibbon wrote much of his “Decline and Fall of the Roman Empire.” Here, with authors, artists, and savans, Smithson found congenial fellowship. His mind was filled with a craving for intellectual development, and for the advancement of human knowledge. To enlarge the domain of thought, to discover new truths, and to make practical application of these for the promotion of civilization, were the great ends he had constantly in view.

For purposes of scientific inquiry he engaged in extensive tours in various parts of Europe; making minute observations wherever he went on the climate, the physical features and geological structure of the locality visited, the characteristics of its minerals, the methods employed in mining or smelting ores, and in all kinds of manufactures.

These numerous journeys and sojourns abroad gave him a cosmopolitan character, and illustrated one of his own sayings: “the man of science is of no country, the world is his country, all mankind his coun-

** Extract from Journal Book of the Royal Society.*

Ordinary meeting, Jan. 18, 1787.—Certificates were read recommending for election Louis Pinto de Sousa Continho, Knight of the Orders of Malta and Christ, and Envoy Extraordinary and Minister Plenipotentiary from the Queen of Portugal to the Court of Great Britain. Also Sir Thomas Gery Cullum, Bart., of Bury Saint Edmunds, in Suffolk, and JAMES LEWIS MACIE, Esq., M. A., late of Pembroke College, Oxford, and now of John Street, Golden Square.

April 19, 1787.—Louis Pinto de Sousa Continho, Portuguese Minister at the Court of Great Britain, Sir Thos. Gery Cullum, Bart., and JAMES LEWIS MACIE, Esq., Certificates in whose favour had hung the usual time in the Meeting Room were put to the ballot and chosen into the Society,

April 26, 1787.—JAMES LEWIS MACIE, Esq., and Sir Thos. Gery Cullum, Bart., elected at a former meeting attended. They paid their admission fees, compounded for Annual Contributions, and having signed the obligation in the Charter book were admitted fellows of the Society.

trymen." This fact is exemplified by the life of Smithson—born in England, spending most of his time in France and Germany, buried in Italy, and leaving his name and fortune to the United States of America.

Desiring to bring to the practical test of actual experiment every thing that came to his notice, he fitted up and carried with him a portable laboratory. He collected also a cabinet of minerals composed of thousands of minute specimens, including all the rarest genus, so that immediate comparison could be made of a novel or undetermined specimen, with an accurately arranged and labeled collection. With minute balances, his weights scarcely exceeding a gram, and with articles so delicate as to be scarcely visible, he made the most accurate and satisfactory determinations. With a few pieces, not exceeding half a cubic inch in size, of tabasheer, a substance found in the hollow of bamboo canes, he made over two hundred and fifty different experiments.*

The value which Smithson placed on such minute researches is incidentally shown by a remark in his paper on "fluorine." He says, "there may be persons who, measuring the importance of the subject by the magnitude of the object, will cast a supercilious look on this discussion; but the particle and the planet are subject to the same laws, and what is learned of the one will be known of the other."

Smithson's ardor for knowledge and his zeal as a collector of new and rare minerals exposed him sometimes to hardship and privation. An interesting account of one of his journeys is given in his private journal.

In 1784, in company with Mr. Thornton, Mons. Faujas de St. Fond, the celebrated geologist of France, the Italian Count Androni, and others, he made a tour through New Castle, Edinburgh, Glasgow, Dumbarton, Tarbet, Inverary, Oban, Arran, and the island of Staffa.

As stated in Mr. Smithson's journal, the party had arrived at a house on the coast of Mull, opposite the island, and the journal continues:

"Mr. Turtusk got me a separate boat; set off about half-past eleven o'clock in the morning, on Friday, the 24th of September, for Staffa. Some wind, the sea a little rough; wind increased, sea ran very high; rowed round some part of the island, but found it impossible to go before Fingal's cave; was obliged to return; landed on Staffa with difficulty; sailors press to go off again immediately; am unwilling to depart without having thoroughly examined the island. Resolve to stay all night. Mr. Macaire stays with me; the other party which was there had already come to the very same determination; all crammed into one bad hut, though nine of ourselves besides the family; supped upon eggs, potatoes, and milk; lay upon hay, in a kind of barn." (The party, be it remembered, embraced two English gentlemen, one French savant, one Italian count.)

"25th. Got up early, sea ran very high, wind extremely strong—no boat could put off. Breakfasted on boiled potatoes and milk; dined upon the same; only got a few very bad fish; supped on potatoes and

* See Appendix. Note 4.

milk; lay in the barn, firmly expecting to stay there for a week, without even bread."

"*Sunday the 26th.*—The man of the island came at five or six o'clock in the morning to tell us that the wind was dropped, and that it was a good day. Set off in the small boat, which took water so fast that my servant was obliged to bail constantly—the sail, an old plaid—the ropes, old garters."

On the 29th, the tourists are at Oban, where a little circumstance is noted, which significantly marks the zeal and activity of the collector of minerals and fossils, and the light in which devotion to geology is sometimes viewed.

"*September 29.*—This day packed up my fossils in a barrel, and paid 2s. 6d. for their going by water to Edinburgh. Mr. Stevenson charged half a crown a night for my rooms, because I had brought '*stones and dirt*,' as he said into it."

A month later he visited Northwich.

"*October 28.*—Went to visit one of the salt mines, in which they told me there were two kinds of salt. They let me down in a bucket, in which I only put one foot, and I had a miner with me. I think the first shaft was about thirty yards, at the bottom of which was a pool of water, but on one side there was a horizontal opening, from which sunk a second shaft, which went to the bottom of the pit, and the man let us down in a bucket smaller than the first."*

These incidents indicate the character of Smithson as a scientific enthusiast, not easily deterred by the fear of personal inconvenience from the pursuit of his favorite object.

Much of his life was passed on the Continent, in Berlin, Paris, Rome, Florence, and Geneva, enjoying everywhere the friendship and respect of the leading men of science,† and always devoting himself to the study of physical phenomena. Distinguished authors, as Gay-Lussac, Marcet, Haüy, Berzelius, and Cordier, presented him with their scientific papers‡ as soon as published, and he enjoyed intimate association and correspondence with Davy, Gilbert, Arago, Biot, Klaproth, Black, and others.§

As a chemist, Sir Davies Gilbert, President of the Royal Society, pronounced Smithson to be the rival of Wollaston, of whom Magendie said, "his hearing was so fine he might have been thought to be blind, and his sight so piercing he might have been supposed to be deaf." It is related of him that he made a galvanic battery in a thimble, and a platinum wire much finer than any hair.

* *Smithsonian Miscell. Coll.*, No. 327, p. 140.

† Galton, in speaking of Erasmus Darwin, remarks: "He was held in very high esteem by his scientific friends, including such celebrities as Priestley and James Watt, and it is by a man's position among his contemporaries and competitors that his work may most justly be appraised." Francis Galton, *English Men of Science*.

‡ See Appendix.—Note 5.

§ See Appendix.—Note 6.

Prof. Walter R. Johnson has made the following remarks respecting Smithson :

“ It appears from his published works that his was not the character of a mere amateur of science. He was an active and industrious laborer in the most interesting and important branch of research—mineral chemistry. A contemporary of Davy and of Wollaston, and a correspondent of Black, Banks, Thomson, and a host of other names renowned in the annals of science, it is evident that his labors had to undergo the scrutiny of those who could easily have detected errors, had any of a serious character been committed. His was a capacity by no means contemptible for the operations and expedients of the laboratory. He felt the importance of every help afforded by a simplification of methods and means of research, and the use of minute quantities and accurate determinations in conducting his inquiries.”

Smithson says in one of his papers, “ chemistry is yet so new a science,” what we know of it bears so small a proportion to what we are ignorant of; our knowledge in every department of it is so incomplete, consisting so entirely of isolated points, thinly scattered, like lurid specks on a vast field of darkness, that no researches can be undertaken without producing some facts leading to consequences which extend beyond the boundaries of their immediate object.”*

Many of these “lurid specks” in the vast field of darkness of which Smithson spoke so feelingly, have, Prof. Johnson observes, “since his days of activity expanded into broad sheets of light. Chemistry has assumed its rank among the exact sciences. Methods and instruments of analysis unknown to the age of Smithson have come into familiar use among chemists. These may have rendered less available for the present purposes of science than they otherwise might have been, a portion of the analysis and other researches of our author. The same may, however, be said of nearly every other writer of his day.”

Although his principal labors were in analytical chemistry, he distinguished himself by his researches in mineralogy and crystallography, in all his work exhibiting the most careful and minute attention to accuracy.† In his second published paper, he observes : “ It may be proper to say that the experiments have been stated *precisely* as they turned out, and have not been in the least degree bent to the system.”

That he pursued his investigations in a philosophic spirit, and with proper methods, is evident from the favor with which his contributions to the scientific societies and transactions of the day were received by his contemporaries, and the fact that the results he reached are still accepted as scientific truths.‡

*A chemical analysis of some calamines. *Smithsonian Miscell. Coll.*, No. 327, p. 26.

† He carefully noted on the margins of his books mistakes in grammar or orthography, and frequently corrected erroneous statements or improper references in the indexes.

‡ An account of some of Smithson's experiments and copies of his notes on minerals and rocks are given in a paper on the works and character of James Smithson, by Dr. J. R. McD. Irby. *Smithsonian Miscell. Collections*, No. 327, 1879, p. 143.

In one of his essays, he divides the sources of knowledge into, 1st, observation; 2d, reasoning; 3d, information; 4th, conjecture. In all his researches he began the process of acquisition by *observing*.

One of his sentiments has been adopted as the motto on the publications of the Smithsonian Institution; viz: "*Every man is a valuable member of society, who, by his observations, researches, and experiments, procures knowledge for men.*"

In a critical notice of Davy's Elements of Chemical Philosophy in the Quarterly Review for 1812, the writer speaking of recent advances in chemistry, and especially in the establishment and extension of the law of definite proportions, remarks: "For these facts the science is principally indebted, after Mr. Higgins, to Dalton, Gay-Lussac, Smithson, and Wollaston."*

The mineral species "*Smithsonite*," a carbonate of zinc, was discovered and analyzed by him, among some ores from Somersetshire and Derbyshire, England. The name, Smithsonite, appears to have been conferred on it by the great French mineralogist Beudant.

It is interesting to notice the number and variety of specimens from the vegetable kingdom that Smithson subjected to analysis. They include the violet, red rose, red clover, daisy, blue hyacinth, hollyhock, lavender, artichoke, scarlet geranium, red cabbage, radish, poppy, plum, pomegranate, mulberry, cherry, currant, buckthorn berries, elder and privet berries. He also examined the coloring matter of animal greens.

It is perhaps worthy of note that his first paper related to an article of importance in the *materia medica*, and his last to a matter of practical value to artists. He by no means confined his attention to abstract science, but contributed knowledge of improved methods of constructing lamps, and of making tea and coffee. That such practical questions might be considered of little importance by men of science he seems to acknowledge by the remarks he makes in one of his papers.

"It is to be regretted," he observes, "that those who cultivate science frequently withhold improvements in their apparatus and processes, from which they themselves derive advantage, owing to their not deeming them of sufficient magnitude for publication. When the sole view is to further a pursuit of whose importance to mankind a conviction exists, all that can should be imparted, however small may appear the merit which attaches to it."†

A secretary of the French Academy deemed it his duty to offer an excuse for having given a detailed account of certain researches of Leibnitz, which had not required great efforts of the intellect. "We ought," says he, "to be very much obliged to a man such as he is, when he condescends, for the public good, to do something which does not partake of genius." Arago remarked in his eulogy on Fourier, "I cannot conceive the ground of such scruples; in the present day the sciences

* *Quarterly Review*, 1812, vol. viii, p. 77.

† Some improvements of lamps. *Smithsonian Miscell. Coll.* No. 327, p. 78.

are regarded from too high a point of view to allow us to hesitate in placing in the first rank of the labors with which they are adorned those which diffuse comfort, health, and happiness amidst the working population."

In another of his papers Smithson says, referring to practical investigations :

"In all cases means of economy tend to augment and diffuse comfort and happiness. They bring within the reach of the many what wasteful proceeding confines to the few. By diminishing expenditure on one article they allow of some other enjoyment which was before unattainable. A reduction in quantity permits an indulgence in superior quality. In the present instance the importance of economy is particularly great since it is applied to matters of high price, which constitute one of the daily meals of a large portion of the population of the earth."

"That in cookery also the power of subjecting for an indefinite duration to a boiling heat, without the slightest dependiture of volatile matter, will admit of a beneficial application, is unquestionable."*

In the books of his library are found numerous marginal notes, indicating his special attention to subjects relating to the health, comfort, resources, and happiness of the people.

Among his effects were several hundred manuscripts and a great number of notes or scraps on a variety of subjects, including history, the arts, language, rural pursuits, &c. On the subject of "habitations" were articles classified under the several heads of situation, exposure, exterior and interior arrangements, building materials, contents and adornment of rooms, furniture, pictures, statuary, &c. It is not improbable that he contemplated the preparation of a cyclopedia or philosophical dictionary.

Smithson's contributions to scientific literature consist of twenty-seven papers, eight published in the *Philosophical Transactions of the Royal Society*, in the years 1791, 1802, 1806, 1808, 1811, 1812, 1813, and 1817, and nineteen in Thomson's *Annals of Philosophy*, a journal of the highest scientific character, in 1819, 1820, 1821, 1822, 1823, 1824, and 1825. These papers have recently been collected and reprinted by the Smithsonian Institution.† Several of them were previously republished in foreign scientific journals translated by himself.

It is highly probable that Smithson contributed articles to scientific and literary journals other than those mentioned, but they have not yet been discovered.

* An improved method of making coffee. *Smithsonian Miscell. Coll.*, No. 327, p. 88.

† *Smithsonian Miscell. Coll.*, No. 327, 1879, 8 vo., 166 pp.

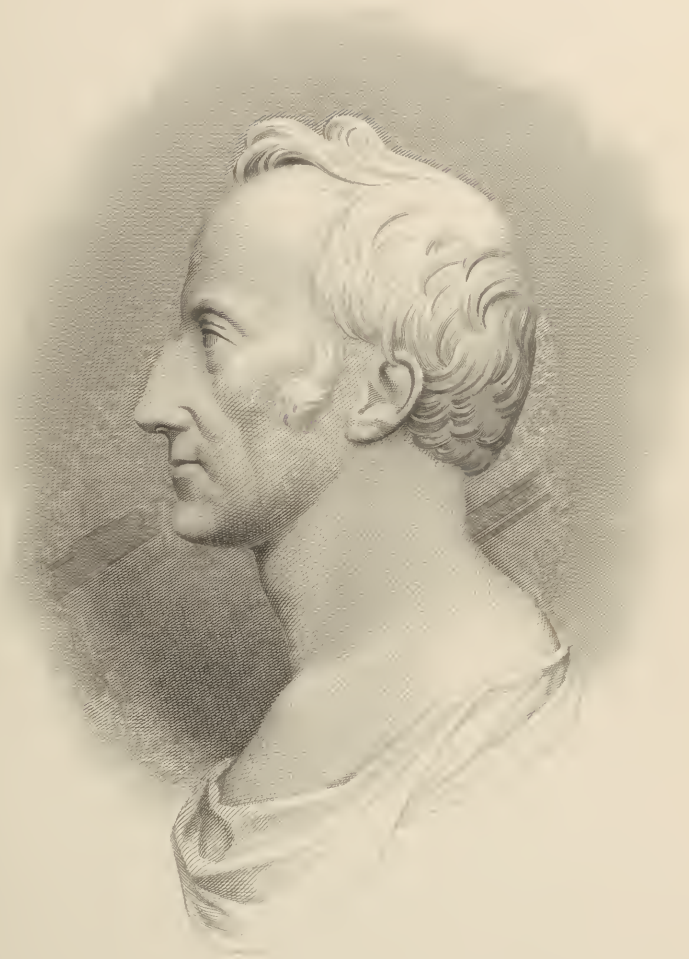
The following is a list of his scientific writings :

[In the Philosophical Transactions of the Royal Society of London.]

- 1791. An account of some chemical experiments on Tabasheer, vol. lxxxi, pt. II, p. 368.
- 1802. A chemical analysis of some Calamines, vol. xciii, p. 12.
- 1806. Account of a discovery of native minium, vol. xevi, pt. I, p. 267.
- 1807. On quadruple and binary compounds, particularly sulphurets, [Philosophical Magazine, vol. xxix, p. 275.]
- 1808. On the composition of the compound sulphuret from Huel Boys, and an account of its crystals, vol. xcviii, p. 55.
- 1811. On the composition of zeolite, vol. ci, p. 171.
- 1813. On a substance from the elm tree, called ulmin, vol. ciii, p. 64.
- 1813. On a saline substance from Mount Vesuvius, vol. ciii, p. 256.
- 1817. A few facts relative to the coloring matter of some vegetables, vol. cviii., p. 110.

[In Thomson's Annals of Philosophy.]

- 1819. On a native compound of sulphuret of lead and arsenic, vol. xiv, p. 96.
- 1819. On native hydrous alamine of lead, or plomb gomme, vol. xiv, p. 31.
- 1820. On a fibrous metallic copper, vol. xvi, p. 46.
- 1820. An account of a native combination of sulphate of barium and fluoride of calcium, vol. xvi, p. 48.
- 1821. On some capillary metallic tin, vol. xvii. New series, vol. I, p. 271.
- 1822. On the detection of very minute quantities of arsenic and mercury, vol. xx. New series, vol. iv, p. 127.
- 1822. Some improvements of lamps, vol. xx. New series, vol. iv, p. 363.
- 1823. On the crystalline form of ice, vol. xxi. New series, vol. v, p. 340.
- 1823. A means of discrimination between the sulphates of barium and strontium, vol. xxi. New series, vol. v, p. 359.
- 1823. On the discovery of acids in mineral substances, vol. xxi. New series, vol. v, p. 384.
- 1823. An improved method of making coffee, vol. xxii. New series, vol. vi, p. 30.
- 1823. A discovery of chloride of potassium in the earth, vol. xxii. New series, vol. vi, p. 258.
- 1823. A method of fixing particles on the sappare, vol. xxii. New series, vol. vi, p. 412.
- 1824. On some compounds of fluorine, vol. xxiii. New series, vol. vii, p. 100.
- 1824. An examination of some Egyptian colors, vol. xxiii. New series, vol. vii, p. 115.
- 1824. Some observations on Mr. Penn's theory concerning the formation of the Kirkdale Cave, vol. xxiv. New series, vol. viii, p. 50.



James Smithson



TOMB OF JAMES SMITHSON.

At Genoa, Italy.

1825. Note to a letter from Dr. Black, describing a very sensible balance, vol. xxvi. New series, vol. x, p. 52.

1825. A method of fixing crayon colors. vol. xxvi. New series, vol. x, p. 236.

Smithson's writings all exhibit clearness of perception, terseness of language and accuracy of expression.*

A trait of Smithson's character is exhibited in the allusions he makes in his writings to other scientific men. His expressions are always kind or complimentary, evidently not for the sake of flattery, but from a sense of justice and truthful recognition of merit. He speaks of Mr. Tennant as one "whose many and highly important discoveries have so greatly contributed to the progress of chemical science." Abbe Haüy he refers to as one "so justly celebrated for his great knowledge in crystallography, mineralogy," &c. "The analysis we possess of natrolite by the illustrious chemist of Berlin," &c.

Of Baron Cronstedt he says, "the greatest mineralogist who has yet appeared."

"A query from the celebrated Mr. Vauquelin."

"The celebrated Mr. Klaproth, to whom nearly every department of chemistry is under numerous and great obligations."

"M. Berzelius' elegant method of detecting phosphoric acid," &c.

"M. Werner, its principal and most distinguished professor," &c.

Smithson died on the 27th of June, 1829, at Genoa, Italy. He was buried in the Protestant cemetery, about a mile west of Genoa, on the high elevation which forms the west side of the harbor and overlooks the town of Sampierdarena. His grave is marked by a handsome monument. The base is of pale gray marble, 6 feet and a half long, 3 feet wide, and $3\frac{3}{4}$ feet high. On the top of this is a white marble urn suitably proportioned to the base. The lot is inclosed by an iron fence, with gray marble corner posts. On one side of the monument the inscription is as follows:

"Sacred to the memory of James Smithson, esq., Fellow of the Royal Society, London, who died at Genoa the 26th June, 1829, aged 75 years."

On the other side is the following:

"This monument is erected, and the ground on which it stands purchased in perpetuity, by Henry Hungerford, esq., the deceased's nephew, in token of gratitude to a generous benefactor and as a tribute to departed worth."

The announcement of his departure called forth expressions of regret from prominent men of science, and as he had been an honored Fellow of the Royal Society, its president, Sir Davies Gilbert, alluded to it on two occasions. At the meeting of the Royal Society November 30, 1829, he remarked, "In no previous interval of twelve months has the society

*A few extracts from his published writings are given in the Appendix, Note 7.

collectively, or have its individual members, experienced losses so severe, or so much in every respect to be deplored." Among the names then referred to were those of Dr. W. H. Wollaston, Dr. Thomas Young, and Sir Humphrey Davy. To these illustrious savans he adds that of James Smithson, who, he says, "has added eight communications to our Transactions. He was distinguished by the intimate friendship of Mr. Cavendish, and rivalled our most expert chemists in elegant analyses."*

At the following anniversary meeting of the Royal Society, November 30, 1830, the president, Sir Davies Gilbert, delivered an address in which, after speaking of the death of Major Kennele and Mr. Chevenix, he says:

* * * "The only remaining individual who has taken a direct and active part in our labours, by contributing to the Transactions, is Mr. James Lewis Smithson, and of this gentleman I must be allowed to speak with affection. We were at Oxford together, of the same college, and our acquaintance continued to the time of his decease.

"Mr. Smithson, then called Macie, and an undergraduate, had the reputation of excelling all other resident members of the University in the knowledge of chemistry. He was early honored by an intimate acquaintance with Mr. Cavendish; he was admitted into the Royal Society, and soon after presented a paper on the very curious concretion frequently found in the hollow of bambû canes, named *Tabasheer*. This he found to consist almost entirely of silice, existing in a manner similar to what Davy long afterwards discovered in the epidermis of reeds and grasses.

"Mr. Smithson enriched our Transactions with seven other communications: A chemical analysis of some calamines. Account of a discovery of native minium. On the composition and crystallization of certain sulphurets from Huel Boys in Cornwall. On the composition of zeolite. On a substance procured from the elm tree, called *Ulm*. On a saline substance from Mount Vesuvius. Facts relative to the colouring matter of vegetables.

"He was the friend of Dr. Wollaston, and at the same time his rival in the manipulation and analysis of small quantities. *Αγαθὴ δ' ἐρίς ἦδε βροτοῖσι.* Mr. Smithson frequently repeated an occurrence with much pleasure and exultation, as exceeding anything that could be brought into competition with it; and this must apologize for my introducing what might otherwise be deemed an anecdote too light and trifling on such an occasion as the present.

"Mr. Smithson declared that happening to observe a tear gliding down a lady's cheek, he endeavored to catch it on a crystal vessel; that one-half of the drop escaped, but having preserved the other half he submitted it to reagents, and detected what was then called microcosmic salt, with muriate of soda, and, I think, three or four more saline substances, held in solution.

* *Philosophical Magazine*, 1830, vol. vii, p. 42.

"For many years past Mr. Smithson has resided abroad, principally, I believe, on account of his health; but he carried with him the esteem and regard of various private friends, and of a still larger number of persons who appreciated and admired his acquirements."*

This tribute to his memory and worth shows the high standing Smithson had attained in the estimation of his compeers, and that he secured the fidelity and affection of his dependants is evinced by the care with which, in his will, he provides a reward for their attachment and services.

"It has been the lot of the greatest part of those who have excelled in science," says Dr. Johnson, "to be known only by their own writings, and to have left behind them no remembrance of their domestic life or private transactions, or only such memorials of particular passages as are on certain occasions necessarily recorded in public registers."

To the same effect, Wilson, in his life of Cavendish (the warm friend of Smithson), remarks: "So careless has his own country been of his memory that although he was for some fifty years a well-known and very distinguished Fellow of the Royal Society, a member for a lengthened period of the French Institute, and an object of European interest to men of science, yet scarcely anything can be learned concerning his early history. This, no doubt, is owing in great part to his own dislike of publicity, and to the reserve and love of retirement which strongly characterized him. Long before his death however, he was so conspicuous a person in the scientific circles of London that the incidents of his early life might readily have been ascertained. They were not, it should seem, inquired into by any biographer."†

This is eminently true of Smithson. We are unfortunately debarred from acquiring an intimate knowledge of his personal traits and peculiarities by the absence of an autobiography, or even of any sketch of his life by his friends. For this reason we are more ready to avail ourselves of every fact in regard to him that can be ascertained, however trivial or insignificant any one of these might otherwise be considered. Even an inventory of his wardrobe and a schedule of his personal property possesses an interest and serves at least to gratify a natural curiosity. Such a list has recently been found as certified by the English consul at Genoa, after the death of Smithson, with a valuation of the different articles:

| | Francs. |
|---|----------|
| A carriage, complete | 2,500 00 |
| Twenty-six silver forks, one salad fork, eight desert spoons, eighteen spoons, four sauce-ladles, one soup ladle, four salt spoons, three sugar ladles, one tea shell, three silver-head corks, two silver vessels, one toasting fork, weighing in all 193½ ounces of silver, valued by Mr. A. Canissa, a goldsmith | 1,050 00 |
| An English gold repeater | 200 00 |

* The *Philosophical Magazine*, January-June, 1831, vol. ix, p. 41.

† George Wilson. *Life of Henry Cavendish*. London, 1851.

| | Francs. |
|---|------------|
| A Geneva gold watch | 60 00 |
| Two gold snuff-boxes, one toothpick case, and two shirt buttons | 417 00 |
| One pin with sixteen small diamonds | 33 34 |
| One ring with composition set in diamonds | 66 73 |
| One ring of agate | 3 40 |
| One ring, cameo, head of a Moor | 50 00 |
| Two small boxes, one of tortoise shell, the other of amber | 6 30 |
| One gold ring | 13 00 |
| One small silver pick case | 6 00 |
| A clasp of gold with hair | 16 67 |
| A clasp with diamonds | 203 34 |
| A pin with hair and diamonds | 45 67 |
| A cameo | 50 00 |
| A ring with diamonds | 92 00 |
| Sixteen shirts, nineteen cravats, forty-four pocket handkerchiefs, thirteen pairs of stockings, three nightcaps, two pair of drawers, two pair of sheets, three pillow-cases, seven waistcoats, two flannel waistcoats, six pair pantaloons, two cloth pantaloons, three coats, one nightgown, one dressing coat, two pair braces, four pair gloves | 400 00 |
| One telescope | 60 00 |
| Many small articles | 100 00 |
| Two pasteboard boxes containing medals, coins, stones, &c. | |
| One parcel containing papers relative to the Grand Canal* | |
| Several parcels of papers and five books | |
| 112 Napoleons in gold and 34 francs 60 centimes, in the hands of Messrs. Gibbs & Co | 2, 274 60 |
| Cash in hands of Messrs. Gibbs & Co | 3, 634 74 |
| One parcel, thirteen certificates Spanish stock, Paris, 4th September, 1822, 350 piastres rente d'Espagne, par value, francs 24, 097 50, valued at | 3, 780 00 |
| Promissory note for 295 francs, dated 1st June, 1824, due by Alexis Silenne | 295 00 |
| Bond for 20,000 francs, dated 8th July, 1828, due by Saily & Scur, of Paris | 20, 000 00 |
| Bill for 2,000 francs, dated 8th October, 1822, drawn by Mr. Saily, accepted by Mr. Smithson | 2, 000 00 |
| Bank-note for £100, No. 14419, 19th December, 1827, in the hands of Messrs. Gibbs & Co | 2, 500 00 |
| Parcel containing accounts and letters from Messrs. Drummond & Co. | |

* The Grand Canal is 90 miles in length, uniting the rivers Trent and Mersey, with branches to the Severn, to Oxford, &c. It was proposed by Mr. Wedgwood, and was the second one made in England.

Very few of these articles were transferred to Mr. Rush, the agent of the United States Government, who received the bequest. His enumeration of the personal effects of Smithson is as follows :

"A large trunk ; a box containing sundry specimens of minerals ; a brass instrument ; a box of minerals ; a box of chemical glasses ; a packet of minerals ; a glass vinegar-cruet ; a stone mortar ; a pair of silver-plated candlesticks and branches ; a pair of silver-plated candlesticks without branches ; a hone, in a mahogany case ; a plated-wire flower-basket ; a plated coffee-pot ; a small plated coffee-pot ; a pair of wine-coolers ; a pair of small candlesticks ; two pair salt-cellar ; a bread-basket ; two pair vegetable dishes and covers ; a large round waiter ; a large oval waiter ; two small oval waiters ; two plate-warmers ; a reading shade ; a gun ; a mahogany cabinet ; two portraits in oval frames ; a china tea-service, consisting of twelve cups and saucers ; six coffee-cups ; a tea-pot ; a slop-basin ; a sugar-basin and lid ; two plates ; a milk-jug ; a tea-canister ; two dishes ; a landscape in a gilt frame ; a Derby-spar vase ; a China tub ; a piece of fluor-spar ; a pair of glass candlesticks ; a marble bust ; sundry books and pamphlets ; two large boxes filled with specimens of minerals and manuscript treatises, apparently in the testator's handwriting, on various philosophical subjects, particularly chemistry and mineralogy. Eight cases and one trunk filled with the like."

With reference to a gun, pieces of china, and articles of a miscellaneous nature belonging to Smithson, Mr. Rush was informed by his attorneys that they were taken in possession by his nephew, Henry James Hungerford.

Mr. Rush, in one of his dispatches to the State Department (July 14, 1838), says: "The boxes and trunk are to go on shipboard to-day. Before knowing anything of their contents, I thought proper to have them opened and examined in the presence of our consul and two other persons. A large portion of the contents proved to be unimportant ; nevertheless, all will be delivered over on my arrival as I received them, except to have them better packed for a sea voyage, and so as to prevent further injury to that which time and bad packing have already done to them."

These articles remained in the New York custom house from the 29th of August, 1838, until June, 1841, when, at the earnest solicitation of the National Institute of Washington, they were sent to the latter city.

The trunk contained manuscripts and clothing, the latter consisting of the following articles, according to a list found among the papers of the National Institute: "1 net shirt, 4 sheets, 11 napkins, 5 light vests, 1 bag, 4 roundabouts, 5 light pants and short breeches, 1 bib, 3 drawers, 3 pair garters, 2 light coats, 1 cloth overcoat, 1 cloth military coat, 1 cloth hunting coat, 1 cloth cloak, 1 cloth surtout, 1 cloth pair of pants, 2 cloth vests, 4 pair stockings, 1 chapeau."

The clothing was nearly ruined by moths, and was presented to an

orphan asylum. An examination of the effects was made by a committee of the National Institute, who made the following report as to part of them: "A cabinet, consisting of a choice and beautiful collection of minerals, comprising probably eight or ten thousand specimens. These, though generally small, are exceedingly perfect, and constitute a very complete geological and mineralogical series, embracing the finest varieties of crystallization, rendered more valuable by accompanying figures and descriptions by Mr. Smithson, and in his own handwriting. The cabinet also contains a valuable suite of meteoric stones, which appear to be specimens of most of the meteorites which had fallen in Europe during several centuries."

Mr. Francis Markoe, jr., himself an expert mineralogist, in a letter to the American Philosophical Society, 4th August, 1841, says "that among the valuable things contained in the Smithson boxes were found a superb collection, and very large, of precious stones and exquisite crystallized minerals, forming, as far as I can judge, decidedly the richest and rarest collection in this country."

A medallion was found among his effects to which were attached the words "my likeness," written in Smithson's own hand. From this has been engraved the portrait published by the Institution, the great seal ordered by the first Board of Regents, and the vignette which appears on all the Smithsonian publications. The original steel-plate portrait, engraved by J. W. Paradise, of New York, in 1847, was destroyed by fire, but it was finely reproduced for the Institution by Charles Burt, of New York, in 1879.

A full-length portrait (about one-fourth size) in oil, of Smithson, representing him in the costume of an Oxford student, was purchased by the Institution in 1850, for thirty guineas, from the widow of John Fitall, a former servant, to whom Smithson granted an annuity in his will.

Still later, in 1878, the Institution purchased from Mr. George Henry De la Batut, of France, a beautiful miniature in oil, on ivory, painted by Johns, on the 11th of May, 1816, at Aix-la-Chapelle.

The effects of Smithson were exhibited in the Patent Office building, Washington, until 1858, when they were transferred to the Smithsonian Institute, where they were unfortunately destroyed by fire on the 24th of January, 1865, with the exception of his books, a very few manuscript notes on minerals, and an oil painting of a landscape. A list of these books now in the Institution will be found in the appendix.*

The following articles are enumerated as the contents of case 23 in Alfred Hunter's "Popular Catalogue of the Extraordinary Curiosities in the National Institute, arranged in the building belonging to the Patent Office," 1855:

"Silver plate with coat of arms of the Northumberland family; chemical apparatus, test-cups, &c; thermometer, snuff-box, portrait of

* See Appendix—Note 8.

Mr. Smithson.

Rue Montmartre, N^o. 121.

FAC-SIMILE OF VISITING CARD OF JAMES SMITHSON.

Mr. Smithson begs the honor of

Company at Dinner
on _____ the _____

The favor of an Answer is desired.

FAC-SIMILE OF DINNER INVITATION CARD OF JAMES SMITHSON.

Smithson's father, scales, umbrella-case, and riding-whip, sword-belt and plume, silver spoons and butter-knife, ornamented spools for winding gold wire, copper plate with his name engraved on it; minerals of Smithson, a very superb collection, though small; silver candlestick; an elegant service of silver, containing a great many pieces. These are all very much discolored by sulphurous gas. A marble head of Saint Cecilia, by Thorwaldsen, presented to Mr. Smithson at Copenhagen by Dr. Brandis, physician to the King of Denmark. A fine old original painting by Bergham, cattle piece, peasants, &c.; an old building in the distance. Its subject is rustic and familiar life. The treatment is chaste and mellow. The depth of the foreground is really surprising, and appears to be produced without an effort; the background is transparent and aerial; the middle distance sober and clear; the atmosphere and vapors pellucid and tremulous; the quiet and docile animals, the groups of peasantry, and the strongholds of power are equal to any other great effort of the celebrated Bergham. Many specimens of petrified wood. Notice several beautiful specimens of marble, which it would be difficult to distinguish from a fine landscape painting. Glass model of the great Russian diamond, valued at about 600,000 pounds sterling."

In an "Account of the Smithsonian Institution, &c.," by Wm. J. Rhees, published in Washington in 1859, the following statement is made:

"In the room used by the 'Regents' and the 'Establishment' as a hall for their meetings, are now deposited the personal effects of James Smithson. Here may be seen his trunks, umbrella, walking-cane, sword, plume, riding-whip; a set of silver-plate; a miniature chemical laboratory, which he used when travelling; thermometers, snuff-box, scales, candlesticks, &c. Hanging in this room is an original painting by Bergham, a rural scene, the property of Smithson, a marble head of St. Cecilia, by Thorwaldsen, &c."

The will of Smithson was prepared by him on the 23d October, 1826, while residing in Bentinck street, Cavendish Square, London, three years before his death, showing that it was made with deliberation and confirmed by mature reflection. Its provisions are in some respects so remarkable that they have been attributed to a mere whim or eccentricity of character; but knowledge of the man as a scientific investigator, accustomed to the use of precise language, fond of the most minute details, and yet of broad and comprehensive views, precludes this inference. An interesting circumstance has come to light from a recent careful examination of the books in Smithson's library. A volume has been found entitled "Plain advice to the public, to facilitate the making of their own wills, with forms of wills, simple and elaborate, containing almost every description of bequest, especially the various modes of settling property for the sole use and benefit of married women for their lives, with powers of appointment to them by deed or will; tables of the stamp duties on probates and letters of administration; special rules

and tables regarding the wills and letters of administration of petty officers, seamen, and marines, and a chapter of useful hints to persons about to make their own wills; the whole illustrated with explanatory notes and remarks, being an intelligible and complete, though summary, explanation of the law of wills and testaments.' By the author of 'Plain instructions to executors and administrators.'" London, 1826, 8vo., 94 pages.

It is noticeable that this book was published in the same year in which Smithson made his will, and that it was carefully studied is evident from his marginal notes, and the fact that he adopted its phraseology in providing an annuity to his faithful servant. His words were not only chosen to accord with the forms of law, but with strict regard to the meaning and scope of the language used. The will, moreover, is in the testator's own handwriting.

It is an interesting subject of speculation to consider the motives which actuated Smithson in bequeathing his fortune to the United States of America to found an institution in the city of Washington.

He is not known to have had a single correspondent in America, and in none of his papers is found any reference to it or to its distinguished men.* It has been alleged that he was more friendly to monarchical than to republican institutions, but there appears to be no foundation for this opinion. It is more probable that, living at a time when all Europe was convulsed with war, when the energies of nations, the thoughts of rulers, and the lives of millions were devoted to efforts for conquest or to perpetuate despotism, he turned to the free American Republic, where he could discern the germs of rising grandeur, the elements of enduring prosperity, and the aspirations of coming generations. He undoubtedly felt that in the United States there would be wider scope for the promotion of knowledge, and that in this new country there would always be free thought and indefinite progress. By selecting the nation itself as the depository of his trust he paid the highest compliment to its intelligence and integrity, and testified his confidence in republican institutions and his faith in their perpetuity.

The period in which Smithson lived was not less marked by the gloom occasioned by long-protracted and almost universal war, and the extent and rapidity of its social changes, than by the luster of its brilliant discoveries in science and its useful inventions in the arts. The leaders of contending nations, who had long absorbed the attention of Europe by their struggles for dominion, were at last forced to relinquish some of their honors to the great philosophers whose achievements then illuminated the page of history, and which have not since been surpassed. It was pre-eminently a period of activity of thought,

* There are only two books in Smithson's library containing references to the United States. Extracts from these relative to the city of Washington are given in the Appendix, Note 9.

of fertility of invention and of original research. Pure abstract science had many illustrious votaries, and the practical application of its truths gave to the world many of the great inventions by means of which civilization has made such immense and rapid progress.

Not only were individual efforts for the welfare of humanity made, but a spirit of association was developed and numerous organizations formed, having for their object the promotion of science, education, and philanthropy. The few existing societies also became inspired with new life and vigor. The "Royal Society of London" entered upon its most brilliant epoch and became the fountain and center of intellectual progress. "The Royal Institution of Great Britain," chiefly indebted for its origin to an American, was founded in 1800, "for diffusing the knowledge and facilitating the general introduction of useful mechanical inventions and improvements and for teaching by courses of philosophical lectures and experiments the application of science to the common purposes of life." A glance at the names of a few of the great organizations instituted in different parts of the world at the close of the last and beginning of the present century will show the remarkable scientific activity of that period and the direction of thought towards the establishment of permanent institutions:

| | |
|--|---|
| 1782. Royal Irish Academy. | 1812. Royal Academy of Sciences of Berlin (reorganized). |
| 1784. Royal Asiatic Society. | 1816. The French Academy of Sciences (reorganized). |
| 1788. Linnean Society. | 1818. Academy of Natural Sciences, Philadelphia. |
| 1788. Société Philomatique. | 1819. Philosophical Society, Cambridge. |
| 1795. Société Philotechnique. | 1820. Royal Astronomical Society. |
| 1799. Academy of Sciences, Lisbon. | 1821. Société Impériale de Géographie, Paris. |
| 1800. Royal Institution of Great Britain. | 1822. Société Asiatique, Paris. |
| 1805. Société Anthropologique, Paris. | 1825. Société Royale des Antiquaires du Nord, Copenhagen. |
| 1807. Geological Society of London. | 1826. Zoölogical Society, London. |
| 1808. Royal Institute of the Low Countries. | |
| 1812. Literary and Philosophical Society, Liverpool. | |

The remarkable advances made in science at this epoch were thus alluded to by Arago in his eulogy on Thomas Young:

"In a short space of time the Academy has lost from the list of its members, Herschel, whose bold ideas on the structure of the universe have acquired every year more of probability; Piazzzi, who, on the first day of the present century, presented our solar system with a new planet; Watt, who, if not the inventor of the steam-engine, was at least the creator of so many admirable contrivances by the aid of which the little instrument of Papin has become the most ingenious, the most useful, the most powerful means of applying industry; Volta, who has been immor-

talized by his electric pile; Davy, equally celebrated for the decomposition of the alkalis, and for the invaluable safety-lamp of the miner; Wollaston, whom the English called "the Pope," because he never proved fallible in any of his numerous experiments or of his subtle theoretical speculations; Jenner, lastly, whose discovery I have no need to extol in the presence of fathers of families."

Cuvier also made the following imposing retrospect of the scientific achievements of this era in his eulogy on Hattü:

"The laws of a geometry, as concise as comprehensive, extended over the entire heavens; the boundaries of the universe enlarged and its spaces peopled with unknown stars; the courses of celestial bodies determined more rigorously than ever, both in time and space; the earth weighed as in a balance; man soaring to the clouds or traversing the seas without the aid of winds; the intricate mysteries of chemistry referred to certain clear and simple facts; the list of natural existences increased tenfold in every species, and their relations irrevocably fixed by a survey as well of their internal as external structure; the history of the earth, even in ages the most remote, explored by means of its own monuments, and shown to be not less wonderful in fact than it might have appeared to the wildest fancy: such is the grand and unparalleled spectacle which it has been our privilege to contemplate."

While scientific thought and discovery were thus being advanced, attention was directed to the great ignorance of the masses. The idea of universal diffusion of knowledge had been unknown in England, and many of the upper classes of society cherished and avowed a deeply rooted dislike to the education of the poor, as "tending to discontent and an overthrow of that orderly subordination without which society cannot exist." The principle was held by many, and considered indisputable, that "the ignorance of the people was necessary to their obedience to law."*

The period, however, was one in which revolution was commencing in all directions. Many of the old landmarks of thought, opinion, and fact were in process of removal and new ones were rapidly becoming established. The progress and results of mechanical invention were producing great social changes. Lord Brougham's "Treatise on Popular Education," first published in January, 1825, had reached its twentieth edition in the following year. His vigorous, eloquent, and practical appeals to his countrymen were exciting universal attention, and through his efforts the first of the useful and popular Mechanics' Institutes was established, the University of London was founded, and book clubs, reading societies, and scientific lectures were organized.

At the opening of the session of Parliament in 1828, he proclaimed that it was unconstitutional that almost the whole patronage of the State should be placed in the hands of a military premier. The concluding passage of his speech ran through the country, and dwelt for-

* Lord Cockburn.

ever in men's minds in its axiomatic power. "There had been periods when the country heard with dismay that the soldier was abroad. That is not the case now. Let the soldier be ever so much abroad, in the present age he could do nothing. There is another person abroad—a less important person, in the eyes of some an insignificant person, whose labours have tended to produce this state of things—the *schoolmaster is abroad*."*

Lord Brougham had declared that "to instruct the people in the rudiments of philosophy would of itself be an object sufficiently brilliant to allure the noblest ambition. To promote these ends and to obtain for the great body of his fellow-creatures that high improvement which both their understanding and their morals fitted them to receive," he urged upon the consideration of the men of wealth of Britain. "Such a one, however averse by taste or habit to the turmoil of public affairs, or the more ordinary strifes of the world, may in all quiet and innocence enjoy the noblest gratification of which the most aspiring nature is susceptible; he may influence by his single exertions the character and the fortunes of a whole generation, and thus wield a power to be envied even by vulgar ambition, for the extent of its dominion; to be cherished by virtue itself, for the unalloyed blessings it bestows." He pressed the subject on the attention "of all men of enlightened views, who value the real improvement of their fellow-creatures and the best interests of their country." He appealed to public-spirited individuals to promote the diffusion of knowledge and the cultivation of intellectual pursuits by devoting some of their means to these objects, and showed how much money had been misapplied by benevolent persons in sustaining certain charitable institutions which only tended to increase the number of the poor and dependent classes.

The "Society for the Diffusion of Useful Knowledge" was established in April, 1825, and at once entered upon a career alike brilliant and successful. "Its publications," says the *Edinburgh Review*,† "undoubtedly form by far the most important of the contributions from men of science and letters to the instruction and improvement of mankind." "Its efforts were to be extended until knowledge had become as plentiful and as universally diffused as the air we breathe."

It cannot be doubted that Mr. Smithson became impressed with the prevailing and new spirit of his age, and, recognizing as a man of science the inestimable value of knowledge and the importance of its universal diffusion, wrote the words of his will bequeathing his whole fortune "*for the increase and diffusion of knowledge among men*."

At one period of his life, and when an active member of the Royal Society, he purposed leaving his fortune to that body for the promotion

* Chas. Knight's *Passages of a Working Life*. London, Vol 2, p. 66.

† *Edinburgh Review*, Vol. xlvii, 1827, p. 243.

of science,* but it is said that a disagreement with the council of the society on account of the non-acceptance of one of his papers probably led him to abandon the idea. This circumstance is of importance as indicating the bent of his mind and the mode in which he proposed to benefit mankind. The difficulty referred to, however, undoubtedly led him to give broader scope to his plan, and to choose a trustee for his endowment who would be hampered by no conventional or traditional restrictions, and who would understand and carry out his purposes in the most liberal and practical manner.†

It is peculiarly gratifying to Americans to remember that the *first* award made by the Council of the Royal Society of the Copley medal, the most honorable within its gift, was to our own countryman, Benjamin Franklin, who was adjudged to be the author of the most important scientific discovery. On this occasion the president of the society stated that the council, "keeping steadily in view the advancement of science and useful knowledge, and the honor of the society, had never thought of confining the benefaction within the narrow limits of any particular country, much less of the society itself."

As this was the spirit of the leading scientific organization in existence, of which Smithson himself was an active and honored member, he well exemplified its liberal principles by transferring his foundation of a great establishment for the "increase and diffusion of knowledge among men" from London to the city of Washington.

Smithson received a large estate from his half brother, Colonel Henry Louis Dickinson, in trust for the benefit of the son of this brother as well as of his mother. To this nephew, to whom he was probably attached, or because he had derived a large part of his fortune from his father, he left his whole fortune. Contingent on the death of this young man, he made the remarkable provision of an establishment in the United States which has secured for him the distinction of being a *benefactor of mankind*.

* The charter states that the Royal Society was founded for the improvement of *natural knowledge*. This epithet *natural*, Dr. Paris remarks, "was intended to imply a meaning of which very few persons are aware. At the period of the establishment of the society the arts of witchcraft and divinations were very extensively encouraged, and the word natural was therefore introduced in contradistinction to *supernatural*." Hooke, the president, declared, in 1663, that "the business and design of the Royal Society was to improve the knowledge of natural things, and all useful arts, manufactures, mechanic practises, engynes and inventions by experiments—(not meddling with divinity, metaphysics, moralls, politicks, grammar, rhetoric, or logick.)"

Dr. Wollaston had made a gift of £1,000 to the Royal Society, the interest of which was to be annually applied towards the encouragement of experiments.

† "Our countrymen do not believe that America is more advanced in knowledge and refinement than Enrope; but they know that, with slight divergencies, both hemispheres are in this respect nearly abreast of each other. And they know that, both being yet far from the goal, their generous transatlantic rivals start unencumbered by many old prejudices and social trammels which we cannot here escape from."—(Tait's *Edinburgh Magazine*, 1832, p. 234.)



HENRY JAMES HUNGERFORD.
(Nephew of James Smithson.)

It has been shown with what zeal and pleasure Smithson himself engaged in the advancement of knowledge, and what general interest had been awakened in England in the cause of scientific organization and popular education at the very time he wrote his will, and it is not unreasonable, therefore, to believe that he contemplated this contingency as a very probable event.

The will of Smithson, dated October 23, 1826, was proved in the Prerogative Court of Canterbury by his executor, Mr. Charles Drummond, a London banker, on the 4th of November, 1829. The value of the effects was sworn to be under £120,000.*

In 1878, a copy of a will also in Smithson's handwriting was procured by the Institution from Mr. de la Batut, almost identical with the one recorded in the courts of London.

It appears from this that the word heretofore printed *Audley* in copies of the will should be "Studley," and that the name of the former servant who kept the Hungerford Hotel at Paris should be Sailly, and not Jailly. In the record of the will at London, the word Smithsonian as the name of the Institution to be established is "Smithsonean," but as it is very plainly written "ian" in what we must consider his original draft, the misspelling referred to is undoubtedly due to an error of the transcriber. In all the proceedings in the court of chancery, and all the negotiations of Mr. Rush, the name "Smithsonian" has uniformly been used.

The first article of the will refers to an old and trusted servant, John Fitall, to whom, in consideration of his attachment and fidelity, Smithson bequeaths an annuity of a hundred pounds sterling. This Fitall died in June, 1834, having enjoyed the benefit of his legacy for five years.

Mr. Smithson next directs that various sums of money he had lent to another of his servants, Henri Honori Sailly, should be allowed to remain uncalled for at five per cent. interest for five years.

He then mentions the fact that all the money in the French five per cents. (*livres de rentes*) then standing in his own name and in that of Colonel Dickinson was the property of his nephew, being what he inherited from the colonel, who died on the 22d May, 1820, with what he had added himself to it from savings made out of the income. To this nephew, Henry James Hungerford, who was also known as Henry James Dickinson, and still later as Baron Eunice de la Batut, he leaves the rest of the income arising from his property during his life. The whole of his fortune is by the next clause of the will left absolutely and forever to any child or children, legitimate or illegitimate, of the said nephew Hungerford. But in case of the death of his nephew without leaving a child or children, or of the death of the child or children he may have had under the age of twenty-one years or intestate, he then says:

* *Gentleman's Magazine*, 1830, vol. c., p. 275.

"I bequeath the whole of my property to the United States of America, to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men."

The nephew, Mr. Hungerford (alias H. J. Dickinson), to whom was bequeathed a life interest in Smithson's estate, brought an amicable suit in chancery against the executors for the purpose of having the assets administered under the direction of the lord chancellor, and these were ascertained to be about £100,000 sterling. The income from this property, which consisted mainly of stock in the public funds of England, was promptly paid to young Hungerford, who led a roving life in Europe, without settled habits or occupation, and died under the name of Baron Eunice de la Batut, at the Royal Hotel in Pisa, Italy, on the 5th of June, 1835, under thirty years of age, never having married, and leaving no heirs who could, even under the broad provisions of his uncle's will, make a claim to his bounty.

The mother of Hungerford, a Mrs. Mary Ann Coates, had married a Frenchman named Theodore de la Batut, and was still living at Port Louis in France. She now made a claim for part of the estate, on the ground that her son had given her an ample allowance while he lived, and that under the will of his father, Col. Henry Louis Dickinson, made in Paris in July 1819, by which he left all his property to his brother, James Smithson, half the income was to be for her benefit during her life. It was shown that young Hungerford lived up to his income, and had left nothing even to pay debts or funeral expenses. It was also urged that if Smithson's will had come into operation then, instead of seven years before, Hungerford would, in consequence of an alteration of the law, have been entitled to a portion of the accruing half-year's income up to his death; and that, in consequence of the change in the law, he could not be said to have enjoyed the income of the property during his whole life. It was also urged as a "moral claim," that as the Smithson bequest was to be applied "to increase and diffuse knowledge among men," the children of Mrs. de la Batut were entitled to an allowance from it until the age of twenty-two for their education.

The claim made was for an annuity of £240; but after long negotiation the decree was made by the court of chancery to allow Mrs. de la Batut £150 9s. during her life, with a payment of £526 11s. 6d. for arrears from the 22d September, 1834, to the 22d March, 1838. To secure this annuity, the sum of £5,015 in three per cent. consols was retained in trust by the court, the interest to be paid on the 22d September and 22d March annually. By the law of France, the life income is apportionable and payable up to the time of death; and Colonel Dickinson having been domiciled in France, this rule applied in his case.

Mrs. de la Batut lived to the year 1861, and the amount retained in England as the principal of the annuity was paid over to the Institution on the 11th June, 1864. This is known as the "residuary legacy"

I James Smithson son to Hugh first Duke of Northumberland & Elizabeth heiress of the hundred of Shuteley & niece of Charles the Fourth Duke of Somerset now residing in Duntich Street Covent Garden Square, do this twenty third day of October one thousand eight hundred & twenty six make this my last will and Testament, I bequeath the whole of my

property of every nature & kind over to my Partners Messrs. Drummonds of Chancery-lane, and trust, to be disposed of in the following manner; and I desire of my said executors to put my property under the management of the Court of Chancery.

Edw. John Fittall formerly my servant, but now unemployed in the London docks and residing at No. 27 Jubilee Place North mile End Old Town in consideration of his attachment and fidelity to me & the long and great care he has taken of my effects & my having done but very little for him I give and bequeath the annuity or annual sum of one hundred pounds sterling for his life to be paid to him quarterly free of legacy duty and all other deductions the first payment to be made to him

at the expiration of three months after my death.

I have at diverse times lent sums of money to Henry Honore Gailly formerly my servant - but now keeping the ~~app~~ Henry's food & Hotel in the rue Cuvier at Paris, & for which sums of money, I have unvisited bills or bonds signed by him, now I will and direct that if he desists it - these sums of money be left remain in his hands at and interest of five per cent. for five years after ~~my death~~ the date of the present will.

To Henry James Penyerford my nephew, heretofore called Henry James - Dickinson, son to my late brother Lieutenant Colonel Henry James Dickinson, now residing with Mr. Huppin at Rouen. In Paris, I give and bequeath for his life the whole of the income arising from my property of every nature and kind whatever, after the payment of the above annuity, & after the death of John Fitzall that annuity likewise, the payments to be made to him at the time of the interest as dividends become due on the stocks or other property from which the income arises X
thus the next look

x I should the said Henry James Hungerford have a child or children, legitimate or illegitimate, I leave to such child or children his or their heirs, executors, & assigns, after the death of his, or her or their father, the whole of my property of every kind, absolutely and for ever to be divided between them; if there is more than one, in the manner their father shall judge proper, or in case of his unwilling to do so, this, as the Lord Chancellor shall judge proper. I should my said nephew Henry James Hungerford ~~never~~. I implore him to make a jointure.

In the case of the death of my said nephew without leaving a child or children or of the death of the child or children he may have had, under the age of twenty-one years, or in so far as I then bequeath the whole of my property, subject to the annuity of one hundred pounds to John Ffakel, and for the security and payment of which, I mean stock to remain in this country, to the united states of america, to be paid at

Washington, under the name to the Smithsonian
institution, an establishment for the increase
as diffusion of knowledge among men.

I think proper here to state that all the
money ^{which} ~~that~~ will be standing in the

French five per cents, at my death in the
names of the father of my above mentioned
nephew, Henry James Geynesford, & all
that in my names, is the property of
my said nephew being what he
inherited from his father, or what I
have laid up for him from the saving
upon his wisdom.

James Smithson.

of Smithson, and the sum realized from it by the Institution, by the premium on gold, &c., was \$54,165.38.

The first announcement made to the American Government of the fact that the United States had become entitled to the bequest of Smithson was a dispatch, dated 28th July, 1835, from Hon. Aaron Vail, chargé d'affaires of the United States at London, to Hon John Forsyth, Secretary of State, transmitting a letter from Messrs. Clarke, Fynmore and Fladgate, attorneys in that city. This communicated the intelligence that the nephew of Smithson had died, and that the United States was entitled to the estate, valued at £100,000.

These facts were laid before Congress by President Jackson on the 17th December, 1835, who stated in his message that he had no authority to take any steps toward accepting the trust.

In the Senate of the United States the message of the President was referred to the Committee on the Judiciary, which, by its chairman, Mr. Benj. Watkins Leigh, of Virginia, reported, on the 5th of January, 1836, that they considered the bequest of Mr. Smithson a valid one, and they believed "that the United States would be entertained in the court of chancery of England to assert their claim to the fund as trustees for the purpose of founding the charitable institution at Washington to which it is destined by the donor." The question whether it was within the competency of the Government to appropriate any part of the general revenue from the nation at large to the foundation of a literary or any other institution in the District of Columbia was answered by Mr. Leigh by stating that—

"The fund given by Mr. Smithson's will is nowise, and never can become, part of the revenue of the United States; they cannot claim or take it for their own benefit; they can only take it as trustee."

"The United States were to be regarded as the *parens patriæ* of the District of Columbia, and in that character they had a right and were in duty bound to assert a claim to any property given to them for the purpose of founding an institution within the District, and to provide for the due application and administration of such a fund when they obtained possession of it."

Resolutions were reported by the committee providing for the prosecution of the claim. The report was considered in the Senate on the 30th April, 1836, and it was urged by Mr. W. C. Preston, of South Carolina, that the Government of the United States had no power to receive the money. He thought the donation had been made partly with a view to immortalize the donor, and it was "too cheap a way of conferring immortality." He had no idea of the District of Columbia being used as a fulcrum to raise foreigners to immortality by getting Congress as the *parens patriæ* to accept donations from them. He expressed the opinion that Smithson's intention was to found a university.

Mr. Leigh, in reply, maintained that the legacy was not for the benefit

of the United States, but only for one of the cities of the District of Columbia, and with this belief he had no difficulty in voting for the bill.

Mr. John M. Clayton, of Delaware, also thought a university was intended by Smithson.

Mr. John C. Calhoun, of South Carolina, was of opinion that the donation was made expressly to the United States, and that "it was beneath their dignity to receive presents of this kind from any one."

Mr. Samuel L. Southard, of New Jersey, advocated the measure, as he thought Congress had the unquestionable right to establish a national university.

Mr. James Buchanan, of Pennsylvania, believed that Congress had the power to receive and apply this money to the purposes intended by the testator, without involving the question whether it was for a university or not.

Mr. Robert J. Walker, of Mississippi, advocated the bill as a measure of justice to the city of Washington.

Mr. John Davis, of Massachusetts, argued that the Senators were mistaken who assumed that Smithson intended his bequest to establish a university. This word was not to be found in the will, and there were other means for diffusing knowledge besides the one referred to. He deemed the establishment of institutions for the promotion of knowledge a vital principle of republican government.

After a somewhat protracted debate the resolutions were finally passed on the 2d of May, 1836, by a vote of 31 to 7, and on the 25th of June they were again passed in the shape of a bill as it had come from the House of Representatives.

The message of the President was referred in the House, on the 21st of December, 1835, to a special committee, consisting of Mr. John Quincy Adams, of Massachusetts, Mr. Francis Thomas, of Maryland, Mr. James Garland, of Virginia, Mr. D. J. Pearce, of Rhode Island, Mr. Jesse Speight, of North Carolina, Mr. Thomas M. T. McKennan, of Pennsylvania, Mr. E. A. Hannegan, of Indiana, Mr. Rice Garland, of Louisiana, and Mr. G. H. Chapin, of New York. In this committee great opposition was manifested at first to the acceptance of the bequest, but this yielded to the arguments and persuasion of the distinguished chairman, Mr. John Q. Adams. A bill was accordingly reported, directing the President to appoint an agent to assert and prosecute for and in behalf of the United States in the court of chancery, England, the legacy bequeathed by James Smithson. The agent was to give bonds in \$500,000 for the faithful performance of the duties imposed upon him. The Treasurer of the United States was to take charge of and keep safely all the money received on account of the bequest, and "the faith of the United States was solemnly pledged that the fund should be applied for the purpose of founding and endowing at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffu-

sion of knowledge among men." For the cost of prosecuting the claim an appropriation of \$10,000 was made.

On the 19th of January, 1836, Mr. Adams made an elaborate report, containing all the facts he had been able to collect relative to Smithson, and expressing in the most glowing and refined language his appreciation of the value of the gift to America and its importance to mankind. Mr. Leigh had convinced the Senate that it was the duty of Congress to accept the bequest, and Mr. Adams brought before the House an account of the life of the testator, the nature of the trust, the character of the trustees, the practical influence of our political institutions upon Europe, and the vast benefits to the world which might grow out of the legacy. The report was unanimously agreed to in the committee, but Mr. Adams had great misgivings whether anything would ever be realized from the bequest. The delays of the English court of chancery were well known, and the opinion had even been expressed that the whole affair was an imposture. Mr. Adams never wavered, however, in his faith in the power of the government to procure the money and its ability to administer it properly. He refers in his diary to it as the favorite and almost absorbing subject of his thoughts, and for many years he devoted untiring activity and personal efforts to its successful accomplishment.

No action was taken by the House on Mr. Adams's report until the Senate had passed Mr. Leigh's resolution; when that was taken up, changed in form to that of a bill, passed on the 25th of June, 1836, and was approved by the President on the 1st of July, 1836.

In accordance with this act the President appointed, on the 11th of July, Hon. Richard Rush, of Pennsylvania, as the agent to assert and prosecute the claim of the United States to the legacy. His salary was fixed at \$3,000 per annum, and \$2,000 were allowed for contingencies, not including legal expenses. Mr. Rush gave the necessary bond for \$500,000, Messrs. J. Mason, jr., and Benjamin C. Howard being his sureties, who were accepted by Mr. Woodbury, Secretary of the Treasury. This appointment was one eminently fit to be made, and its wisdom was proved by the successful accomplishment of the mission. Mr. Rush had been Comptroller of the United States Treasury at a time when the fiscal affairs of the government were in disorder; he was next Attorney-General; then minister to England for a period of eight years; Secretary of the Treasury; and minister to France. "To these great and varied employments," Hon. J. A. Pearce has remarked, "he brought integrity, ability, intelligence, firmness, courtesy, and a directness of purpose which scorned all *finesse* and which served his country to the full extent of all that could have been demanded or hoped."

Mr. Rush immediately proceeded to London, placed himself in communication with the attorneys of the executor of Smithson, and entered with vigor into the measures necessary to assert the claim of the United

States. It was soon ascertained, on consultation with eminent counsel, Messrs. Thomas Pemberton and Edward Jacob, then at the head of the chancery bar, that it was necessary that a suit should be brought in the name of the President of the United States against the testator's executors, and that the Attorney-General must be made a party to the proceedings in order that he might represent before the court any claim which the Crown might have to the bequest on account of its extension to illegitimate children, or by reason of any part of the property consisting of interests in land. Mr. Rush, in addition to Messrs. Pemberton and Jacob, employed Messrs. Clarke, Fynmore, and Fladgate as his legal advisers, and a suit was commenced in the court of chancery in November, 1836. The first hearing, however, did not take place until the 1st of February, 1837, before Lord Langdale, master of the rolls, this court and that of the vice-chancellor being the two branches of the English chancery system before which suits are brought in the first instance.

The case was fully opened on behalf of the United States by Mr. Pemberton. The King's counsel abandoned at once all opposition on the part of the Crown, and no question was raised under the doctrine of escheats or any other by the representatives of the British Government. The court then decreed that the case be referred to one of the masters in chancery, Mr. Nassau William, Sen., to make the requisite inquiries as to the facts on the happening of which the United States became entitled to the fund left by Mr. Smithson, and also as to the claim of Madame De la Batut.

The United States had never before sued in an English court, but there were precedents of other nations having done so by their executive heads, as, for example, the King of France and the King of Denmark. The United States were therefore allowed to enter the courts in the name of the President.

Advertisements were immediately inserted in the London Times, Herald, and Standard, and in French and Italian newspapers in Paris and Port Louis, in France, and Leghorn, in Italy, asking for information respecting Henry James Hungerford; whether he married, whether he left any child, &c.

Mr. Rush, in August, 1837, wrote to the Secretary of State that there were more than eight hundred cases in arrears in the court of chancery, and he felt much discouraged as to a speedy termination of the suit. While the population of England had increased in a definite period six-fold and her wealth twentyfold, the judicial establishment had remained nearly the same. There were only eleven masters in chancery, while double the number would not be sufficient. The subject of a reform in this court, Mr. Rush stated, had been specially recommended by the Throne to Parliament. It had been said, with truth, that "a chancery suit was a thing that might begin with a man's life and its termination

be his epitaph." Still later it will be remembered that Mr. Dickens stated in 1853 that there was then "a suit before the court of chancery which had been commenced twenty years before in which from thirty to forty counsel had been known to appear at one time, in which costs had been incurred to the amount of £70,000, which was a *friendly* suit, and which was no nearer its termination than when it was begun."

Mr. Rush refers in terms of high compliment to the solicitors he had employed on behalf of the United States. He says:

"That more attention, diligence, discretion, and integrity could not have been exerted by any persons than they have shown throughout the whole suit from first to last. Could they ever have forgotten what was due to the United States and to themselves, in the desire to eke out a job, nothing is plainer to me, from what has been passing under my observation of the entanglements and delays natural to a heavy suit in the English court of chancery, than that they might have found opportunities in abundance of making the suit last for years yet to come."

It is therefore to be regarded as one of the most remarkable events in the history of the bequest that the suit of the United States, commenced in November, 1836, should have been brought to a successful issue, in less than two years, on the 12th of May, 1838, which, it may be interesting to note, was the first year of the reign of Her Majesty Queen Victoria.

Mr. Rush was therefore placed in possession of the legacy with the exception of the part reserved as the principal of an annuity to Madame De la Batut. Mr. Rush thus expresses his satisfaction at the result:

"A suit of higher interest and dignity has rarely perhaps been before the tribunals of a nation. If the trust created by the testator's will be successfully carried into effect by the enlightened legislation of Congress benefits may flow to the United States and to the human family not easy to be estimated, because operating silently and radually throughout time, yet operating not the less effectually."

Scarcely had the decision of the court been made and the amount of the award published in the newspapers, when two claimants for the estate of Smithson appeared, neither having any connection with the other; and they desired, rather importunately, to know if the case could not be reopened. They were much chagrined to find that they were a little too late in their application, and nothing more was heard of them.

The American minister to England, Mr. Stevenson, and our consul at London, Mr. Aspinwall, united in testifying to the great tact and ability of Mr. Rush, and in affirming—

"That no litigant ever displayed a more ardent zeal or a more sagacious, devoted, and unremitting diligence in the prosecution of his private suit than *he* did in urging on this public one to a prompt and successful conclusion. The dispatch with which in consequence this purpose was finally accomplished is almost without example in the annals of chancery. His solicitors will long remember his adroit and unsparing

application of the spur. Had he not urged them to the top of their speed, he would have had a lighter weight of gold to carry home with him."

The estate of Smithson which was transferred to Mr. Richard Rush consisted of the following securities:

£64,535 18s. 9d. in consolidated three per cent. annuities, called consols, sold at an average of 95½ per cent., yielded £56,175.

£12,000 in reduced three per cent. annuities, sold at 94 per cent., yielded £11,280.

£16,100 in Bank of England stock, sold at about 205 per cent., yielding £32,996 10s.

Good-fortune again attended Mr. Rush, for the day when he sold the consols their value was higher than at any previous time for many years or than at any later period. The bank stock also commanded the remarkably high premium of about 205 per cent.

The estate, therefore, independent of the accumulations of interest and notwithstanding the delays in the court of chancery, was worth more than in the summer of 1835, when the right of the United States first attached to it by the death of Henry James Hungerford, and the entire amount of sales yielded an aggregate of more than one hundred and six thousand pounds sterling.

Mr. Rush's next concern was how to transfer these funds to the United States, and he decided to convert the whole into gold coin and send it in this form. This was not only the most judicious course, but it secured an increase of the fund to upwards of a thousand pounds sterling on account of saving the cost of exchange. This sum was enough to cover commissions, insurance, freight, and other charges on the transfer of the gold.

The costs of the suit and expenses connected with the shipment of the proceeds of the bequest were as follows:

Costs of the chancery suit, £490 4s. 10d.; selling the stock, commission to Thomas Aspinwall, £797 15s. 6d.; charges for shipping, £6 19s. 4d.; premium of insurance, £605 3s. 10d.; brokerage, stamps, &c., £120 4s. 6d.; freight from London to New York, £393 12s.; primage, £19 13s. 8d.

The proceeds of the sales of the stocks, &c., were converted into gold sovereigns, and these were packed at the Bank of England in bags containing £1,000 each and shipped in eleven boxes by the packet *Mediator*, of New York, on the 17th July, 1838. Three other boxes sent at the same time contained the personal effects of Smithson.

The ship *Mediator* arrived in New York on the 29th of August, 1838, and the gold, amounting to £104,960 8s. 6d., was deposited in the Bank of America until the 1st of September, when it was delivered to the Treasurer of the United States Mint in Philadelphia, and immediately recoined into American money, producing \$508,318.46 as the bequest of Smithson.

LEGISLATION OF CONGRESS
IN RELATION TO
THE DISPOSITION OF THE BEQUEST.

On the 6th of December, 1838, President Van Buren had the satisfaction of announcing to Congress that the claim of the United States to the legacy bequeathed to them by James Smithson had been fully established, and that the fund had been received by the government. He now urged the prompt adoption of a plan by which the intentions of the testator might be fully realized. For the purpose of obtaining information which might facilitate the attainment of this object, he applied, through the Secretary of State, to a number of persons "versed in science and familiar with the subject of public education, for their views as to the mode of disposing of the fund best calculated to meet the intentions of Smithson, and be most beneficial to mankind."

He communicated to Congress the replies received, of which the following is a brief abstract.

President Francis Wayland, of Brown University, proposed a university of high grade to teach Latin, Greek, Hebrew, Oriental languages, and a long list of other branches, including rhetoric, poetry, intellectual philosophy, the law of nations, &c.

Dr. Thomas Cooper, of South Carolina, also proposed a university, to be opened only to graduates of other colleges, where the higher branches of mathematics, astronomy, chemistry, &c., should be taught, but Latin and Greek, literature, medicine, and law excluded.

Mr. Richard Rush proposed a building, with grounds attached, sufficient to reproduce seeds and plants for distribution; a press to print lectures, &c.; courses of lectures on the leading branches of physical and moral science, and on government and public law; the salaries to be ample enough to command the best men, and admit of the exclusive devotion of their time to the studies and investigations of their posts; the lectures, when delivered, to be the property of the institution for publication. Mr. Rush also made the excellent suggestion that consuls and other United States officers might greatly aid the institution by collecting and sending home useful information and valuable specimens from abroad.

Hon. John Quincy Adams expressed, in his reply, the opinion that no part of the fund should be devoted "to the endowment of any school, college, university, or ecclesiastical establishment"; and he proposed to employ seven years' income of the fund in the establishment of an astronomical observatory, with instruments and a small library.

The subject of the Smithson bequest was referred in the House of Representatives on the 10th December, 1838, to a special committee of

nine members, of which Hon. John Quincy Adams was chairman. Besides the letters transmitted to Congress by President Van Buren, other plans were brought before the committee.

A memorial from Prof. Walter R. Johnson suggested the establishment of an institution for experiment and research in physical science especially pertaining to the useful arts, and the discovery, description, application, and improvement of the natural resources of our country. Another scheme was presented by Mr. Charles L. Fleischman for the establishment of an agricultural school and farm, and he entered into the most minute detail as to the buildings and estimates for all the parts of the plan. There were also propositions to use the fund "for the instruction of females," for the establishment of "professorships," for "courses of lectures," for "improved methods of rearing sheep, horses, and silkworms," for founding a great library, &c.

Mr. Adams very earnestly opposed the appropriation of any part of the fund to educational purposes, believing that it was the duty of the country itself to provide the means for this important object. His own favorite scheme was the establishment of an astronomical observatory, and this he advocated in the most ardent, able, and persistent manner.

The chairman of the Senate committee, Hon. Asher Robbins, of Rhode Island, proposed the creation of "an institution of which there is no model either in this country or in Europe, to provide such a course of education and discipline as would give to the faculties of the human mind an improvement far beyond what they obtain by the ordinary systems of education and far beyond what they afterwards attain in any of the professional pursuits." His speech in the Senate on the 10th of January, 1839, in presenting his views on this subject is remarkable for its beauty of diction, elevation of sentiment, and classical erudition.

Mr. Robbins's resolutions provided for a scientific and literary institution, and stated that to apply the fund to the erection and support of an observatory "would not be to fulfil *bona fide* the intention of the testator, nor would it comport with the dignity of the United States to owe such an establishment to foreign eleemosynary means."

The plan of Mr. Robbins was not received with sufficient favor in the Senate to secure its passage, and it was laid on the table by a vote of 20 to 15, on the 25th of February, 1839. Among those who favored the bill were Senators Clay, Davis, Prentiss, Preston, Rives, and Walker, and among those opposed to it were Senators Allen, Bayard, Benton, and Calhoun.

Mr. Adams remarks in his diary, October 26, 1839, that his mind was "filled with anxiety and apprehension lest the fund should be squandered upon cormorants or wasted in electioneering bribery." He adds:

"It is hard to toil through life for a great purpose with a conviction that it will be in vain, but possibly seed now sown may bring forth some good fruit hereafter. If I cannot prevent the disgrace of the country by the failure of the testator's intention, I can leave a record of what I

have done and what I would have done to accomplish the great design if executed well."

At the beginning of the Twenty-sixth Congress, December, 1839, Mr. Adams again brought up the subject of the Smithsonian bequest and had it referred to a committee of nine, consisting of Messrs. Adams, Ogle, Shepard, Garland of Virginia, Lewis, Albert Smith, Barnard, Corwin, and Campbell of South Carolina.

A memorial was presented to Congress from the Corporation of the city of Washington, expressing great anxiety "to see the instructions of Smithsonian carried into effect, believing it impossible to calculate the good which an institution properly founded is susceptible of promoting in the improvement of the intellect, taste, and morals of the country." It was deemed presumptuous, however, to express an opinion as to what should be the character of the institution.

Mr. Hassler, then in charge of the Coast Survey, urged on Mr. Adams the establishment of an astronomical school.

On the 5th of March, 1840, Mr. Adams presented an elaborate and extended report to the House of Representatives, reviewing all that had been done relative to the bequest, and presenting the establishment of an astronomical observatory as the best means of carrying out the purposes of Smithsonian. He gave in detail the arguments in favor of this plan, with estimates for carrying it into effect, and an interesting letter from Mr. Airy, the Astronomer Royal of England, relative to the origin, history, uses, and expenses of the famous Greenwich Observatory. Mr. Adams also gave a masterly summary of the progress of astronomical discovery, painted in the most brilliant colors the achievements of men of science, and portrayed in glowing language the future glory and renown of our country to be derived from the application of the Smithsonian fund in the manner he proposed.

The impropriety of devoting any portion of the fund to establish a school or college was strongly urged, and he said, "We should in no case avail ourselves of a stranger's munificence to rear our children." It is not clear how the learned and distinguished gentleman reconciled his apparent inconsistency in advocating the use of the fund for the establishment of "a *national* observatory to be superior to any other devoted to the same science in any part of the world," and which would "make an impression upon the reputation of the United States throughout the learned and scientific world." The desire of increasing the brightness of our name in the eyes of other nations, and of effacing a stain he detected upon the national escutcheon on account of our lack of an observatory, rendered him insensible or indifferent to the merits of any other plan for the increase and diffusion of knowledge. He seems to have been wedded to his favorite scheme, and his whole course in Congress in relation to the bequest was governed by it. After provision had been made for astronomical observations by the general government he still advocated no other plan, and even went so far as to

declare that he would rather see the money of Smithson thrown into the Potomac than to have it devoted to the advance of education.

It appears that, without debate or explanation, a section was added to the regular appropriation bill, passed 7th July, 1838, for the support of the United States Military Academy at West Point, by which it was enacted that all the money arising from the bequest of Smithson should be invested, when received, by the Secretary of the Treasury, with the approbation of the President of the United States, in stocks of States bearing not less than five per cent. interest, and that the annual income accruing on the stock should also be reinvested in the same way for the increase of the fund.

In accordance with this law, Mr. Levi Woodbury, Secretary of the Treasury, inserted an advertisement in the Washington Globe of August 6, 1838, asking for proposals from those having State stocks to dispose of. A large number of offers were received. Five per cents. of Indiana were offered at par, 98, and 99; of Louisiana, at 98; New York, 102; Maine, 98½ and par; Massachusetts, 104; Kentucky, par; of five and a quarter per cents., Tennessee, at 99½; of five and a half per cents., Missouri, at 102 and par; and of six per cents., Michigan, at par; Virginia, par; Illinois, 104, and Arkansas, 99³/₁₀. Mr. Woodbury accepted the offer of Mr. W. W. Corcoran, of the Arkansas bonds, and purchased \$500,000 of them for the sum of \$499,500. Subsequently he procured \$38,000 more bonds of Arkansas, \$8,000 Michigan, \$56,000 Illinois, and \$18,000 Ohio bonds.

The two bills of Mr. Robbins and Mr. Adams, representing the university and the observatory plans, were reported together to Congress. The former was laid on the table, but the latter not acted on, on account of the pressure of other business at the close of the session.

In 1841, Mr. Lewis F. Linn, of Missouri, introduced a bill in the Senate to appoint trustees for the investment of the Smithson fund, and for the organization of an institution with a superintendent and six professors, to be nominated by the "National Institute," a society which had been formed in Washington for the promotion of science, and many of whose members were anxious to obtain control of the bequest. Mr. Linn proposed that all the collections of art and of natural history owned by the United States should be given to the Smithsonian Institution, but all the buildings, collections, &c., should be under the supervision of the National Institute. This bill was referred to the Library Committee, and a substitute was reported by Mr. Preston on the 17th February, 1841, providing for the incorporation of the National Institute, and the establishment of a Smithsonian Institution, with a superintendent and six professors, to be elected by the board of managers of the former, the officers of the institute and the superintendent of the Smithsonian Institution to constitute a board of management of the Smithson fund, to plan

and erect buildings, procure books, apparatus, collections, &c. It was provided that all works of art, and all books relating thereto, and all collections and curiosities belonging to the United States were to be transferred to the Smithsonian Institution. The ground known as the Mall was appropriated for the buildings and use of the establishment. Nothing resulted however from this proposition.

Through the efforts of Mr. Adams, the act of 7th July, 1838, requiring the investment of the Smithson fund in State stocks, was repealed, and by an act of September 11, 1841, the Secretary of the Treasury was directed to invest the accruing interest thereafter only in United States stock.

President Tyler, in his message at the opening of the Twenty-seventh Congress, urged the propriety of making a specific application of the funds derived from the will of Smithson, and said he felt confident that "no abatement of the principal would be made should it turn out that the stocks in which the fund had been invested had undergone depreciation."

The Senate referred the message to the Library Committee, Mr. Preston, chairman, and the House to a select committee of nine, of which Mr. Adams was again chairman. Mr. Preston soon after reported the bill he had offered at the previous session for combining the National Institute and the Smithsonian Institution, but this was laid upon the table on the 18th July, 1842. Mr. Adams presented a report and bill in the House on the 12th April, 1842, providing for the incorporation of the Smithsonian Institution; that all the money received from the bequest should be placed to the credit of a fund to be denominated the Smithsonian fund, to be preserved undiminished and unimpaired, and to bear interest at 6 per cent. per annum. The interest of this fund was to be appropriated for the erection and establishment of an astronomical observatory, the publication of the observations, and of a nautical almanac.

About this period memorials were presented to Congress in favor of appropriating the fund for the purpose of awarding annual prizes for the best original essays on the various subjects of the physical sciences, for the establishment of an agricultural school and farm, for organizing a system of simultaneous meteorological observations throughout the Union under the direction of Professor Espy, &c.

No definite action was had on any of these propositions, and President Tyler again called the attention of Congress in his message of December 5, 1843, to their neglect of an important duty. The subject was referred to the Joint Library Committee, of which Hon. Rufus Choate was chairman.

Mr. Tappan, from this committee, reported a bill on the 6th June, 1844, providing that the original amount received as the bequest of Smithson, \$508,318.46, be considered as a permanent loan to the United States, at 6 per cent. interest, from the 3d December, 1838, when the same was received into the Treasury; that the interest which accrued to the 1st

July, 1844, viz, \$178,604, be appropriated to the erection of buildings and inclosure of grounds for the Smithsonian Institution; that the business of the institution should be conducted by a board of twelve managers from different States or Territories; that a plain and substantial building be erected, with rooms for a museum, library, chemical laboratory, lectures, arboretum; all the objects of natural history belonging to the United States to be transferred to said institution, exchanges of duplicate specimens to be made, a superintendent to be appointed to be professor also of agriculture and horticulture, additional professors of natural history, chemistry, astronomy, and such other branches as the wants of science may require, "excluding law, physic, or divinity," experiments to be made to determine the utility of new fruits, plants, and vegetables, and finally students to be admitted to the institution gratuitously.

Mr. Adams in February, 1844, succeeded in having a select committee of nine appointed to consider the proper disposition of the fund, and in behalf of this committee made a third elaborate and comprehensive report, together with a bill providing for the appropriation of \$800,000 as the Smithson fund, to be permanently invested in stock of the United States at 6 per cent. interest, and the income to be devoted, as he had before recommended, for an observatory and nautical almanac.

On the 12th December, 1844, Mr. Tappan introduced a bill in the Senate of a similar character to the one he had offered before, but in addition specified that the books to be purchased for a library should consist of works on science and the arts, especially such as relate to the ordinary business of life and to various mechanical and other improvements and discoveries. In prescribing the duties of professors and lecturers, special reference was to be had to the productive and liberal arts, improvements in agriculture, horticulture, and rural economy. Seeds and plants were to be distributed throughout the country, soils were to be analyzed; the professor of natural history was to refer in his lectures to the history and habits of useful and injurious animals; the professor of geology was to give practical instruction in the exploration and working of mines; the professor of architecture was to give instruction as to the best materials and plans for building; the professor of astronomy was to give a course of lectures on navigation and the use of nautical instruments. It was also provided that works in popular form on the sciences and the aid they bring to labor should be published and distributed.

In the discussion to which this bill gave rise in the Senate on the 8th of January, 1845, Mr. Choate made the brilliant speech which is referred to in the *North American Review* as "a splendid offering on the shrine of literature by one of her most gifted votaries, and one which, in future times, will render more memorable the day on which it was delivered than that gallant military achievement of which it is the anniversary. No prouder monument than this would be needed for his fame."*

* *North American Review*, vol. 79, p. 459.

In this famous speech, Mr. Choate remarked that "our sense of duty to the dead, the living, and the unborn who shall live; our justice, our patriotism, our policy, common honesty, common decorum, urge us, are enough to urge us, to go on without the delay of an hour, to appropriate the bounty according to the form of the gift." He opposed anything like the school or college proposed by Mr. Tappan on the ground of its narrow utilitarianism, as being wholly unnecessary and in a great degree useless. It would injure the universities already in existence; it would be exceedingly difficult to secure students; the expense of professors, books, apparatus, and buildings would secure a pretty energetic diffusing of the fund but not much diffusion of knowledge. He approved of the suggestion that lectures should be delivered, especially during the sessions of Congress, not by professors permanently fixed on annual salaries, but by gentlemen eminent in science and literature, to be invited to Washington under the stimulus and with the ambition of a special and conspicuous retainer. He preferred however that the one simple object of the Institution should be to accumulate a grand and noble public library, one which for variety, extent, and wealth should be equal to any in the world. He claimed that this scheme was the only one that "would prevent the waste of money in jobs, salaries, sinecures and quackeries, and would embody Smithson's idea in some tangible form, some exponent of civilization, permanent, palpable, conspicuous, useful, and than which nothing was safer, surer, or more unexceptionable."

Mr. Choate presented many interesting facts in regard to the public libraries of the world, and argued in his peculiarly forcible and eloquent manner that such a plan as he proposed was within the terms and spirit of the trust.

"That directs us to 'increase and diffuse knowledge among men. And do not the judgments of all the wise; does not the experience of all enlightened states; does not the whole history of civilization concur to declare that a various and ample library is one of the surest, most constant, most permanent and most economical instrumentalities to increase and diffuse knowledge? There it would be, durable as liberty, durable as the Union; a vast storehouse, a vast treasury of all the facts which make up the history of man and of nature, so far as that history has been written; of all the truths which the inquiries and experiences of all the races and ages have found out; of all the opinions that have been promulgated; of all the emotions, images, sentiments, examples, of all the richest and most instructive literatures; the whole past speaking to the present and the future—a silent, yet wise and eloquent teacher. * * *

"If the terms of the trust then authorize this expenditure, why not make it? Not among the principal, nor yet the least of reasons for doing so, is, that all the while that you are laying out your money, and when you have laid it out, you have the money's worth, the value re-

ceived, the property purchased on hand to show for itself and to speak for itself. Suppose the professors provided for in the bill should gather a little circle of pupils, each of whom should carry off with him some small quotient of navigation, or horticulture, or rural economy, and the fund should thus glide away and evaporate in such insensible, inappreciable appropriations, how little there would be to testify of it! Whereas here all the while are the books; here is the value; here is the visible property; here is the oil and here is the light. There is something to point to, if you should be asked to account for it unexpectedly, and something to point to if a traveler should taunt you with the collections which he has seen abroad, and which gild and recommend the absolutisms of Vienna or St. Petersburg. * * *

"But the decisive argument is, after all, that it is an application the most exactly adapted to the actual literary and scientific wants of the States and the country. I have said that another college is not needed here because there are enough now, and another might do harm as much as good. But that which is wanted for every college, for the whole country, for every studious person, is a well-chosen library, somewhere among us, of three or four hundred thousand books."

Mr. Tappan, in reply, urged that Smithson's own habits and pursuits should be considered; that it must be remembered that he was an eminently practical philosopher, intimately acquainted with chemistry, mineralogy, geology, and natural history, to the minute study of which he devoted his life. His favorable resort had been the *Jardin des Plantes*, at Paris, and there could be but little doubt that in making his bequest he had in view the establishment of a similar institution. He deprecated the outlay of a large amount in the purchase of books, and asserted that they not only did not promote knowledge, but that one-half of those then in the Library of Congress were to be considered as trash.

Mr. Levi Woodbury, of New Hampshire, favored the employment of lecturers, and the purchase of a moderate-sized library, but preferred that the management of the bequest should be intrusted to the National Institute, a society already in active operation, created by Congress, and the objects of which were appropriate to the trust.

Mr. John J. Crittenden, of Kentucky, thought the purchase of books should be confined to works on science and the arts. Mr. James A. Pearce, of Maryland, concurred in the views of Mr. Choate. Mr. Wm. C. Rives, of Virginia, believed that by knowledge was not merely meant the natural sciences, astronomy, mathematics, &c.; he considered the most important of all the branches of human knowledge that which related to the moral and political relations of man. The field of moral science also embraced a much larger portion of knowledge than the physical sciences. He suggested the "Faculty of letters and sciences" under the auspices of the University of France, as a much better model for the Smithsonian than the *Jardin des Plantes*. He remarked that it was his "firm and solemn conviction that we now have it in our power

to do more good to this nation in our day and generation, by a judicious and wise application of this \$500,000 which has been put into our hands, than by the application of the twenty-five or thirty millions we are in the habit of annually appropriating."

Mr. Choate's amendments were adopted by the Senate and the bill recommitted to be more fully matured. It was again reported to the Senate on the 2d of January, including Mr. Choate's plan of a great library. Mr. Woodbury endeavored again to place the Institution under the management of the National Institute, but was opposed by Senators Buchanan, Choate, and Tappan, on the ground that it was anti-republican and anti-democratic to surrender all control by the people's representatives in respect to a trust committed to their custody for the people's benefit, and to place it in the hands of a close body wholly irresponsible to either Congress or the people.

Mr. Woodbury replied with warmth that his plan, instead of being antagonistic to Congress, made it more in subordination to it, and placed stronger safeguards against any possible departure from its commands or wishes. He also believed that it would be placing a burden on the Institute rather than conferring a favor upon it.

Mr. Buchanan "could imagine no other mode of using the fund" to advantage, than "the purchase of a great library," and strongly opposed any connection with the National Institute.

Mr. William Allen, of Ohio, expressed his opposition to "any plan whatever for connecting anything called an *institution* with the public treasury." He had never known a single instance of a fund of money, charitable or otherwise, being intrusted to the care of an incorporated body of men "that was not squandered and made to fall short of the object of the donor." He wished to see no institution established in the capital of the United States to teach the American people how to think, and read, and speak, and he therefore opposed the whole project.

Mr. Robert J. Walker, of Mississippi, defended the National Institute against the attacks made upon it; showed that it was worthy of and had received the greatest encouragement and most general favor, and claimed that an institution bearing the name of a foreigner never could concentrate in the same degree the affections and confidence of the American people.

After some further debate the bill was laid over for several days, but was taken up and passed on the 23d of January, 1845. When it reached the House, a substitute was offered for it by Mr. Robert Dale Owen, of Indiana; but in the hurry of a short session of Congress the whole matter was left undisposed of.

On the opening of the Twenty-ninth Congress, Mr. Owen again offered his bill to establish the Smithsonian Institution, and it was referred to a select committee of seven members, viz, Messrs. Owen, of Indiana, John Q. Adams, of Massachusetts, Timothy Jenkins, of New

York, George P. Marsh, of Vermont, Alexander D. Sims, of South Carolina, Jefferson Davis, of Mississippi, and David Wilmot, of Pennsylvania.

On the 28th of February, 1846, Mr. Owen, from this select committee, reported an elaborate bill embracing the principal features of Mr. Tappan's bill of the last session, but adding a section providing for a normal branch to give such a thorough scientific and liberal course of instruction as may be adapted to qualify young persons as teachers of our common schools and to qualify students as teachers or professors of the more important branches of natural science. A library was to be procured composed of valuable works pertaining to all departments of human knowledge. Special reference was to be made by the professors to the increase and extension of scientific knowledge generally, by experiment and research. Essays, pamphlets, magazines, manuals, tracts on science, history, chemistry, school-books, apparatus, &c., were authorized.

In advocating this bill Mr. Owen made a very able and impressive speech, and one of the most memorable occurring in the discussion of the subject of the disposition of the bequest. He condemned the dilatoriness of Congress in waiting for ten years, after solemnly accepting the trust, without doing anything whatever to carry out the intention of the donor.

"Small encouragement," he remarked, "is there, in such tardiness as this, to others, as wealthy and as liberal as Smithson and Girard, to follow their noble example! Small encouragement to such men to entrust to our care bequests for human improvement! Due diligence is one of the duties of a faithful trustee. Has Congress, in its conduct of this sacred trusteeship, used due diligence? Have its members realized, in the depths of their hearts, its duties and their urgent importance? Or has not the language of our legislative action rather been but this: 'The Smithsonian fund! Ah, true! That's well thought of. One forgets these small matters.'"

Mr. Owen reviewed all the legislative proceedings in relation to the subject, the various plans brought forward from time to time for adoption by Congress, and called attention to the fact that the object for which Mr. Adams had labored with so much zeal and perseverance—an astronomical observatory—had already been established in Washington. He then made an elaborate reply to Mr. Choate's arguments in favor of a great library. He admitted that "in books exists the bygone world. By books we come in contact with the mankind of former ages. By books we travel among ancient nations, visit tribes long since extinct, and are made familiar with manners that have yielded, centuries ago, to the innovating influences of time." He would go as far as the farthest in his estimate of the blessings which the art of printing had conferred upon man; but such reasoning had no relation to the proposal embraced in Mr. Choate's scheme.

"It substantiates not at all the propriety of spending half a million, or two or three half millions of dollars to rival the bibliomaniacs of Paris and of Munich.

"Books are like wealth. An income we must have to live; a certain amount of income to live in comfort. Beyond a certain income the power of wealth to purchase comfort, or even wholesome luxury, ceases altogether. How much more of true comfort is there in a fortune of a million of dollars than in one of fifty, or say a hundred thousand? If more there be, the excess is hardly appreciable; the burden and cares of a millionaire outweigh it tenfold. And so, also, of these vast and bloated book-gatherings that sleep in dust and cobwebs on the library shelves of European monarchies. Up to a judicious selection of thirty, fifty, a hundred thousand volumes, if you will, how vast, yea, how priceless, is the intellectual wealth! From one to five hundred thousand, what do we gain? Nothing? That would not be true. A goblet emptied into the Pacific adds to the mass of its waters. But if, within these limits, we set down one book out of a hundred as worth the money it costs, we are assuredly making too liberal an estimate.

"Our librarian informs me that the present Congressional library (certainly not one of the most expensive,) has cost upwards of three dollars a volume; its binding alone has averaged over a dollar a volume. The same works could be purchased now, it is true, much more cheaply; but, on the other hand, the rare old books and curious manuscripts necessary to complete a library of the largest class would raise the average. Assuming, then, the above rate, a rival of the Munich library would cost us a million and a half of dollars; *its binding alone* would amount to a sum equal to the entire Smithsonian fund as originally remitted to us from England.

"And thus not only the entire legacy, which we have promised to expend so that it shall increase and diffuse knowledge among men, is to be squandered in this idle and bootless rivalry, but thousands on thousands must be added to finish the work; from what source to be derived, let its advocates inform us. And when we have spent thrice the amount of Smithson's original bequest on the project, we shall have the satisfaction of believing that we may possibly have saved to some worthy scholar a hundred, or perchance a few hundred, dollars, which otherwise he must have spent to obtain from Europe half a dozen valuable works of reference!"

The most important feature of Mr. Owen's bill was however considered by him to be the provision for normal-school instruction. He maintained it to be the duty of Congress to elevate to the utmost the character of our common schools. The normal branch was not intended by him to take the place of similar institutions in the States; it would be supplemental to these, but of a higher grade, and would enable young persons who had passed through the former to perfect themselves in "the most useful of all modern sciences—the humble yet world-subduing

science of primary education." It would also be the place where we might hope to find trained, competent, and enlightened teachers for the State normal schools.

He also specially urged the importance of scientific researches.

"In these," he said, "Smithson spent the greater part of his life. And it cannot be doubted that were he yet alive and here to-day to explain his wishes, *original researches in the exact sciences* would be declared by him a part of his plan. With the knowledge of his life and favorite pursuits before us, and the words of his will specifying the *increase* as well as the diffusion of knowledge for our guide, it seems nothing less than an imperative duty to include scientific research among the objects of a Smithsonian Institution."

Mr. George W. Jones, of Tennessee, made himself conspicuous on this, as on many other occasions, by bitter opposition to the adoption of any plan for the organization of the Institution. He believed that the whole matter was wrong; that the government had no right to accept of the trust, and he proposed that the whole fund, in whatever form it might be, whether money or State bonds, should be returned to any of the heirs-at-law or next of kin of Mr. Smithson. He maintained that—

"It was neither the right, the power, or the true policy of the government to attempt to rear upon the city of Washington an institution for the education of school teachers, agricultural professors, &c., to send out into the country. . . . Every measure of this kind had the tendency to make the people throughout the country look more to this great central power than to the STATE governments."

Mr. Joseph R. Ingersoll, of Pennsylvania, favored the bill of Mr. Owen, and ridiculed the idea of Mr. Jones of returning the money to England. He thought that a great library was not desirable, and said that the necessary building to contain the greatest library in the world would in its own erection exhaust the entire bequest. The Capitol itself would not contain eight hundred thousand volumes so properly arranged as to be accessible. A library was not the object of Smithson. A plan should be adopted to cover general ground, in which all objects of science should be included. He favored that part of the bill providing for normal instruction, and would add an appropriation for defraying the expense of the delivery of lectures by our most distinguished men at different points throughout the country for scientific instruction.

Mr. Frederick P. Stanton, of Tennessee, in a brilliant and eloquent address to the House, supported the bill in its present form. He maintained that it was the result of the conflicting opinions of wise and experienced men, harmonized by comparison, discussion, and mutual concession. He dwelt at length on the importance of advancing science, the value of experimental research and observation; explained and advocated every section of the bill, and concluded by saying: "By proper management this institution may doubtless be made the instrument of immense good to the whole country. To the government it will be of no

slight advantage. It will be a great institution. It may attain a character as high as that of the French Academy, and its authority will then be decisive in reference to numerous questions of a scientific nature continually presented to the committees of Congress and the departments of government for determination and consequent action. Such an institution is greatly needed in the federal city."

Mr. William Sawyer, of Ohio, wanted students to be sent to the Institution selected from the various States and Territories according to the ratio of representation in Congress. He also thought the rate of interest on the fund should be five instead of six per cent.

Mr. D. P. King, of Massachusetts, favored a provision by which students could be educated free of expense, and pay their board by labor on a farm connected with the establishment.

Mr. Jefferson Davis, of Mississippi, advocated the bill as providing for the increase and diffusion of knowledge among men. It was too late to make the objection that the trust ought not to have been accepted. It was our duty to carry it into execution; and as to the fund, it ought to be considered as money still in the Treasury, unconnected with any investment the officers of the government may have made. He regarded *lectures* as the greatest means of extending knowledge which had been adopted in modern times. It was second only to the invention of the art of printing. He would admit that the government had no authority to take charge of the subject of education, but he did not consider this bill as liable to that objection. The normal school system he considered as highly beneficial, serving to produce uniformity in the language, and to lay the foundation of all sciences. The spelling-book of Noah Webster, which had been used extensively in our primary schools, had done more to produce uniformity in our language in this country than anything else. If we sent out good school-books from this institution, it would be of vast service to the country. He enlarged upon the benefits which would result to science and the diffusion of every kind of useful knowledge from an institution which would gather young men from the remotest parts of the country at the common point where every facility for practical instruction would be afforded. The taste of the country would be refined, and he did not consider this as anti-democratic. Knowledge was the common cement that was to unite all the heterogeneous materials of this Union into one mass, like the very pillars in the hall of the House before them.

Mr. Geo. P. Marsh, of Vermont, said that whatever plan was adopted must of necessity be one of compromise, and that though he would have preferred the Senate bill for a library, yet he would cheerfully accede to the present one as proposed to be modified. He regarded it as an experiment which admitted, and which he trusted would hereafter receive, great changes in its conditions rather than as a complete working model. Two objects were aimed at by Smithson: first, the *increase* of knowledge—its enlargement, extension, progress; second, the *diffusion* of

knowledge—its spread, communication, dissemination. Of the various instrumentalities for carrying out this noble and imposing scheme, he considered as the simplest and most efficient the collection for public use of a library, a museum, and a gallery of art, and he preferred that for a reasonable period the entire income of the fund should be expended in this way. While appreciating the value of research and experiment in natural knowledge and the economic arts, and including them in the plan of a great national institution for the promotion of all good learning, he dissented from the doctrine implied by the bill, which confined all knowledge, all science, to the numerical and quantitative values of material things.

“Geology, mineralogy, even chemistry, are but assemblages of apparent facts, empirically established, and this would always be true of every study which rests upon observation and experiment alone. True science is the classification and arrangement of necessary primary truths according to their relations with each other and in reference to the logical deductions which may be made from them. Such science, the only absolute knowledge, is the highest and worthiest object of human inquiry, and must be drawn from deeper sources than the crucible and the retort. A laboratory is a charnel-house; chemical decomposition begins with death, and experiments are but the dry bones of science. It is the thoughtful meditation alone of minds trained and disciplined in far other halls that can clothe these with flesh and blood and sinews, and breathe into them the breath of life.”

Mr. Marsh then showed the importance and value of a great library, and gave illustrations from his extensive knowledge of the libraries in Europe.

Mr. Isaac E. Morse, of Louisiana, was of the opinion that Smithson was a practical man, and that, although possessed of the highest learning, he condescended to devote his time to subjects of the most domestic and homely character. If his intention had been to establish a university or a magnificent library, and thus to have his name transmitted to posterity, it would have been easy for him to have said so, and nothing would have been left to this country but to carry out his enlightened and liberal intentions. But he had no doubt studied the peculiar character of the American people, and discovered that while they entertained a proper respect for the learning and genius of the German universities and of the sciences taught in the schools of Europe, still there was something in the common sense and practical knowledge of our people which comported with his own notions; and he desired that his money should be devoted to diffusing practical and useful knowledge among them. Mr. Morse then introduced a new bill as a substitute for that under discussion, providing mainly that “an offer be made through the newspapers of the United States and Europe of suitable rewards or prizes for the best written essay on ten subjects, the most practical and useful of which should be printed and widely distributed,”

thus fulfilling, in the letter and spirit, the wise and comprehensive intentions of the donor for the increase and diffusion of knowledge among men.

Mr. John S. Chipman, of Michigan, spoke earnestly in opposition to the bill. He thought that our great and powerful government, prospering and progressing as it was in original native intellect, fostered by institutions known to no other country and no other people, should not have consented to be the recipient of what was called a munificent donation of half a million from an Englishman to enlightened American republicans in this country. "How did it happen," he exclaimed, "that this government accepted such a boon from a foreigner—an Englishman too!"

After further debate, Mr. Adams moved that until the arrears of interest due from the States in which the money of Smithson had been invested were paid, no appropriation should be made by Congress for the fulfillment of the purposes prescribed by the testator.

Mr. A. D. Sims, of South Carolina, thought that he saw in the will of Smithson only what he had observed in other instances. "After having griped through their lives every shilling that came into their hands, animated at last by some posthumous vanity, they sought to build up a name which should live after them; and such, rather than any feeling for humanity, was the motive that guided them." He then proceeded to contend that the Government of the United States was not instituted for any such purpose as the administration of charities. He would introduce a bill repealing all laws heretofore enacted on this subject and giving authority and direction for the restoration of the money to the British chancery, where it could be devoted to purposes in England similar to those which had been contemplated in the city of Washington. The only difference would be in the location of the institution.

Mr. Adams proceeded to explain and advocate his substitute, and maintained that in the administration of this fund there were two or three principles that should be observed. One was, that it should never cost the people of the United States a dollar—that it should support itself; another, that no part should ever be applied to the ordinary purposes of education. It was unworthy the people of the United States to receive foreign aid for this purpose. There was no way in which the States could more degrade themselves than by relying on foreign aid or on the General Government for the education of their children.

"But an experience of eight or ten years, since we received this money, had shown him that whenever distinguished scientific men were called upon for their opinions, scarcely two agreed.

"In addition to the application of a certain part of this fund to the science of astronomy, there was another provision which he found, and which he was happy to see this bill made, viz, that no portion of the fund should be appropriated—that it should be a perpetual fund. It was the interest which was to be applied.

"But in the mean time, while this delay had taken place, he was delighted that an astronomical observatory—not perhaps so great as it should have been—had been smuggled into the number of the institutions of the country under the mask of a small depot for charts, &c.

"He claimed no merit for the erection of the astronomical observatory; but in the course of his whole life no conferring of honor, of interest, of office, had given him more delight than the belief that he had contributed, in some small degree, to produce these astronomical observatories, both here and elsewhere. He no longer wished any portion of Smithson's fund applied to an astronomical observatory.

"Nor did he think it important to the people that any provision of this bill should be carried into effect immediately, but rather that measures should be taken to induce the States to pay the interest on their bonds, and then let the money be appropriated to any purpose on which Congress could agree more unanimously than on this bill."

Mr. Andrew Johnson, of Tennessee, was opposed to taking any money out of the Treasury of the United States to establish such an institution.

Mr. George Rathbun, of New York, did not feel disposed to object to any plan with seeming plausibility. He was in favor of expending the money in some way and upon some scheme, faithfully and honestly, but, above all, he was in favor of appropriating the money whether the final result should be good or not. He wished to wipe out the stain which rested on the character of this Government of withholding the money because we were not able to discover the best mode of expending it. In his judgment, a library was the least plausible of any of the schemes proposed.

Mr. Orlando B. Dicklin, of Illinois, opposed the bill. He thought however that the good faith of the Government required that this money should be considered as being in the Treasury, and that we could not excuse ourselves by saying that the fund had been loaned out to the States and could not now be realized. He objected, however, to the connection proposed to be established between this institution and the United States Treasury. A million of dollars would be required to meet the deficiency in this Smithsonian bequest. He was willing to expend the money for a library, and for scientific apparatus, or for any plan by which the fund could be disconnected from the Government. He regarded Mr. Owen's bill as one of the most odious and abominable ever presented, and he would rather see this half million returned to the British court of chancery, or ten millions sunk to the bottom of the Potomac, than to have this bill pass.

Mr. Allen G. Thurman, of Ohio, made inquiries respecting the original investment of the fund, and then discussed the duties of a trustee. He could not vote for the bill unless it were most materially changed. He was opposed to the erection of an immense institution at the city of Washington, that would ultimately become a charge upon the Treasury

and would necessarily be partial in its operations and benefits. He was inclined to favor the library plan, although there were great objections to it. But "there was one recommendation it possessed that strongly influenced him. That was, that though it might not effect the greatest amount of benefit that could be produced by the fund, it was not liable to the abuses to which all the other plans would probably give rise. It would create no large body of office-holders, no patronage, no favoritism, no partially sectional advantages."

Mr. Owen replied to Mr. Adams, and showed that the position of the latter as to the condition of the fund was entirely inconsistent with the reports and bills he had so often presented. He was not specially wedded to the feature of normal schools, although he believed it was the most important one in the bill. As to the disgrace of educating our children with foreign aid, there was no proposition in this bill to educate children, but the teachers of children. And as to disgrace, it might be said with equal propriety that it was disgraceful to receive foreign aid for founding a library.

Mr. Andrew Johnson renewed his attack on the bill:

"There was something a little farcical and amusing [to him] in this system of normal instruction, which was to provide the country with school teachers. He would like to see a young man, educated at the Smithsonian Institution and brought up in all the extravagance, folly, aristocracy, and corruption of Washington, go out into the country to teach the little boys and girls to read and write! Those young men, so educated, would steal, or play the little pettifogger, sooner than become teachers. Ninety-nine out of a hundred of those who received the benefit of this institution would hang about a law-office, get a license, become a pack of drones instead of schoolmasters. Washington City was not a place for such an institution. He believed that it would result in an injury to the country instead of a benefit."

Mr. John Bell, of Tennessee, held that the United States was responsible for the fund and ought to appropriate it for its object. He hoped that Arkansas would one day pay the money, but he feared it would be a distant day. It was necessary to act now. He did not wholly approve of the bill reported, but he would take it rather than do nothing.

Mr. Hannibal Hamlin, of Maine, regarded this fund as one which had been received by the Government to carry out the intentions of Mr. Smithson, and to which, by their acceptance, they had solemnly bound themselves. He alluded to the difficulty—nay, the impossibility—of any select committee agreeing upon a plan which, in all its details, should be in accordance with the views of all. Notwithstanding this, he trusted we should not let this opportunity go by to make a commencement in this matter. He had not the slightest doubt of the full and unqualified power of this Government to take charge of this money and give it the direction required by the will of Mr. Smithson.

While there were features in the bill with which he was not entirely

pleased, he should vote for the bill in case it was not amended. But there were some amendments to the bill of the gentleman from Indiana [Mr. Owen] to which he would fain hope that gentleman himself would lend a favorable ear. One related to the appropriation of a part of it to the science of agriculture. He referred to the general and deplorable want of information of the components of the soil, the proper mode of treating it, the proper adaptation of crops to different soils, &c., and said he wished to see connected with this institution a department of agricultural chemistry and a professor of agriculture proper.

Mr. Bradford R. Wood, of New York, said that if ever there was a point in which the national honor was concerned, it was in carrying out the intentions of the testator in his bequest. He considered it an honor to the country that the subject of a monarchical government should have selected this as the instrument of his expansive benevolence. He thought normal instruction should be left to the States, but responded heartily to Mr. Hamlin's suggestion in relation to agricultural instruction. He would do all he could to increase and diffuse useful knowledge among the masses, but this could not and would not be attained by such education as would be obtained here, or by collecting at this point a splendid library. The latter might, and unquestionably would, benefit those already learned, but not the people.

Mr. William F. Giles, of Maryland, proposed an amendment, providing for the publication and distribution of books for the instruction of the blind.

Mr. W. W. Wick, of Indiana, discussed the duties of a trustee, and took the ground that the Government of the United States had no discretion in this case as to the mode of investment of the funds. There was no power given by the will of Smithson to invest the money in any special manner, and the Government invested it at its own hazard. If, of his own accord and without authority, a trustee made an investment, he was responsible for it. Thus the United States stood in relation to this matter, and to this extent they were responsible, if at all. The honor of the country should be sustained by the faithful execution of the trust.

Mr. Washington Hunt, of New York, entirely concurred with Mr. Wick's view of the subject. It was a reproach to the government to delay carrying out the purposes of this trust.

At length, after a full and exhaustive debate for two days, the House proceeded to vote on the bill and amendments. The normal school section was stricken out, on motion of Mr. Adams, by a vote of 72 to 42; the provision for professors and lecturers by 77 to 42, as also that for students. Mr. Jones's amendment, to return the money to England, received 8 votes in the affirmative to 115 in the negative. Mr. Adams's proposition, to defer the organization of the institution until the State of Arkansas could be induced by "moral suasion to pay up its indebtedness for interest," was voted down by 74 to 57. The provision for lec-

tures was negatived by 72 to 39, while the annual appropriation for a library was increased, on motion of Mr. Marsh, from \$20,000 to \$25,000. The sections requiring experiment and research in agriculture, manufactures, &c., the publication of books, pamphlets, tracts, &c., and the offering of prizes for essays, were stricken out. An amendment that all copyright books, maps, charts, prints, &c., should be delivered to the institution was adopted, and also one that the Government collections deposited in it should be known as the National Museum.

Before a vote was taken on the bill as amended, a substitute for it was introduced by Mr. William J. Hough, of New York, retaining most of the features already agreed upon, and this was passed in the Committee of the Whole by a vote of 83 to 40. It was then reported to the House, and passed by a vote of 85 to 76.*

Among the prominent men in the affirmative were John Q. Adams, John Bell, Garret Davis, Jefferson Davis, Columbus Delano, Stephen A. Douglas, Solomon Foot, Joshua R. Giddings, Hannibal Hamlin, H. W. Hilliard, George P. Marsh, R. D. Owen, F. P. Stanton, A. G. Thurman, Samuel F. Vinton, David Wilmot.

Among the nays were Howell Cobb, R. M. T. Hunter, J. R. Ingersoll, Andrew Johnson, George W. Jones, Preston King, Alexander H. Stephens, and Jacob Thompson.

On the 10th of August, 1846, the Senate proceeded to consider this bill; amendments proposed were disagreed to, and it passed without debate by 26 to 13. The yeas were, Messrs. Archer, Atchison, Barrow, Berrien, Cameron, Cilley, Thomas Clayton, John M. Clayton, Corwin, Davis, Evans, Greene, Houston, Huntington, Jarnagin, Johnson of Maryland, Johnson of Louisiana, Lewis, Mangum, Miller, Morehead, Phelps, Speight, Spurgeon, Upham, Webster.

Those who voted in the negative were, Messrs. Allen, Ashley, Ather-ton, Bagby, Benton, Calhoun, Dickinson, Fairfield, McDuffie, Semple-Turney, Westcott, Yulee.

The bill was signed by President James K. Polk on the 10th of August, 1846, and became a law, and the Smithsonian Institution was organized under it with the following Board of Regents:

Hon. GEO. M. DALLAS, of Pennsylvania, *Vice-President of the United States, ex officio.*

Hon. ROGER B. TANEY, of Maryland, *Chief Justice of the United States, ex officio.*

Hon. WILLIAM W. SEATON, *Mayor of the city of Washington, ex officio.*

Hon. GEORGE EVANS, of Maine; Hon. ISAAC S. PENNYBACKER, of Virginia; Hon. SIDNEY BREESE, of Illinois, *of the United States Senate, appointed by President of the Senate.*

* The Congressional proceedings and debates in relation to the Smithsonian bequest are reprinted in full in the Smithsonian Miscellaneous Collections, No. 328, 1879. "The Smithsonian Institution: Documents relative to its origin and history." Edited by William J. Rhees. 1027 pp., 8°. 1879.

Hon. WILLIAM J. HOUGH, of New York; Hon. ROBERT DALE OWEN, of Indiana; Hon. HENRY W. HILLIARD, of Alabama, of *House of Representatives*, appointed by the Speaker.

Hon. RUFUS CHOATE, of Massachusetts; Hon. GIDEON HAWLEY, of New York; Hon. RICHARD RUSH, of Pennsylvania; Hon. WILLIAM C. PRESTON, of South Carolina, *citizens of States*, elected by Congress.

ALEXANDER DALLAS BACHE, *Member of the National Institute*; JOSEPH G. TOTTEN, *Member of the National Institute, citizens of Washington*, elected by Congress.



HUGH SMITHSON,
FIRST DUKE OF NORTHUMBERLAND.
(Father of James Smithson.)

APPENDIX.

NOTE 1.

OBITUARY NOTICE OF JAMES SMITHSON.

(From the Gentleman's Magazine.)

"Oct. 1829.—Died: In the south of France, James Smithson, esq., M. A., F. R. S.

"The birth of this gentleman is thus described by himself at the commencement of his will: 'I, James Smithson, son of Hugh, first Duke of Northumberland, and Elizabeth, heiress of the Hungerfords of Studley, and niece to Charles, the proud Duke of Somerset.'

"It is well known that the *wife* of Hugh, first Duke of Northumberland, was Lady Elizabeth Seymour, *grand-daughter* of the same 'proud Duke of Somerset.' It was the Hon. Frances Seymour, daughter of Charles, Lord Seymour, of Troubridge, by his first marriage with Mary, daughter and heiress of Thomas Smith, esq.—and thus half sister to the fifth and sixth Dukes of Somerset, the latter of whom was 'the proud duke'—that was married to Sir George Hungerford; but in the account of the family in Sir R. C. Hoare's *Hungerfordiana* we find no Elizabeth, nor the name of Macie, which was that which Mr. Smithson originally bore. The family of Macie resided at Weston, near Bath.

"James Louis Macie, esq. [the subject of the present notice], was a member of Pembroke College, Oxford, where he was created M. A. May 26, 1786. He was elected Fellow of the Royal Society in 1787, and appears under the same name in the *Philosophical Transactions* for 1791; but between that date and 1803 he chose to change his name to Smithson, although he continued to enjoy the property of the Macies. He was, we believe, at one time a vice-president of the Royal Society."*

NOTE 2.

ACCOUNT OF THE FIRST DUKE OF NORTHUMBERLAND.

(Father of James Smithson.)

"Sir Hugh Smithson was one of the handsomest men in England. He possessed much talent, a highly-cultured intellect, and more learning than is generally found among the nobility. His parents, though of gentle blood, did not belong to the nobility. He had raised himself by his marriage with the heiress to the name and fortune of the house of Percy, and he showed that he was worthy of both."

[His matrimonial alliance had somewhat of a romantic origin. Sir

* *Gentleman's Magazine*, March, 1830, vol. c, p. 275.

Hugh had been unsuccessful in a first courtship, and the story of his disappointment reached the ears of Lady Elizabeth Seymour, only daughter of Algernon Seymour, Baron Percy, who was at that time considered, on account of her birth, wealth, and beauty, the greatest prize in the kingdom. Lady Percy expressed to some of her friends 'surprise that any woman should have refused the hand of such a man as Hugh Smithson.' These words soon became known to the rejected baronet, and wrought a change in his feelings and aspirations. He became the suitor of the fair and noble heiress, and married her on the 16th of July, 1740.]

"By his wise economy he improved the immense estates of this family, and increased their value to such an extent that the revenues from them amounted to over forty thousand pounds. He re-established the old grandeur of the Percys by his taste and splendor. The castle of Alnwick, the former residence of the Earls of Northumberland, was entirely ruined. He rebuilt it, and to please the duchess, his wife, he ornamented it in the Gothic style, which he himself did not admire; but he exercised so much taste that he made the castle one of the most magnificent buildings of this kind to be found anywhere in Europe. He improved Sion, a country-house in the environs of London; and he exhausted the resources of all the arts, and of unusual wealth, to fill these two mansions with master-pieces of good taste, and to render them worthy of their possessors. He was created an earl, had the order of the Garter conferred on him, and was afterwards appointed viceroy of Ireland; finally, he was raised to the rank of a duke, and upheld these high positions by an expenditure unequalled at that time.

"The Duchess of Northumberland was of the very highest birth, descending from Charlemagne through Joscelin de Louvain, who had married Agnès de Percy in the year 1168. She brought to her husband; as her marriage portion, several peerages, the name and coat-of-arms of the Percys, and an immense income. She was very high-minded, and of a natural and easy disposition; she was very good-hearted and charitable; above all, she was truly attached to her friends, whom she distinguished and served whenever an opportunity offered.

"The duke was fond of arts and sciences, so I entered into his tastes, discussing all these subjects with him, in which he found that I was well versed, and that he could converse with me on more topics than with any one else. The duchess, on the contrary, had a predilection for little 'jeux d'esprit' in the company of friends, and she found amusement in gathering together engravings, medals, and in collecting a variety of other things. I joined in these pursuits as if I had made them the business of my previous life. In the evening I took part in her social games, and made myself useful to her in her amusements, the only interruption to my attentions being a short trip to Paris."*

From the Gentleman's Magazine for July, 1786, we also learn that "The establishment of his Grace was as magnificent as it was possible for any English nobleman's to be. He had at all times three mansion-houses—and of late four—in occasional use. He spent immense sums in different sorts of very costly decorations; pictures by every master; gardening by Browne; buildings by Adams. . . . More than fifteen

* [L. Dutens.] "*Mémoires d'un voyageur qui se repose*; contenant des anecdotes historiques, politiques et littéraires relatives à plusieurs des principaux personnages du siècle. Par M. L. D. Troisième édition. 3 vols. 8°. Londres, 1807." Vol. i, pp. 226-228. (This book is in Smithson's library.)

years ago he was able to purchase the property on which Lord Percy had his seat, in Yorkshire; and a few years ago, the mansion, manors, and boroughs of Humphrey Morice, in the West, all were sold to the Duke. In short, the rental, with the dukedom, he left at about 50,000 pounds, and to his second son 10,000 pounds per annum. The duke had negotiated a further improvement of the Northumberland estate, but did not live to see it completed.*

On the death of the Duke of Northumberland, the following obituary notice was given in the same magazine:

"June 6, 1786. At eight o'clock this morning, died at Sion House, in his 74th year, the Most Noble Hugh, Duke and Earl of Northumberland, Earl Percy, Baron Warkworth and Louvaue, Lord Lieutenant and Custos Rotulorum of the counties of Middlesex and Northumberland, and of the town and county of Newcastle-upon-Tyne, Knight of the Most Noble Order of the Garter, and Baronet; who with a princely fortune, sustained his exalted rank through life with the greatest dignity, generosity, and splendor, and will ever be considered as one of the first characters of that age of which he constituted so distinguished an ornament. We are well informed that his annual income was not less than 45,000 l. per annum. His Grace's extensive charities to the poor, his constant encouragement of literature and the polite arts, and his generous patronage of every kind of merit, make his death truly a public loss, and will cause it to be long and sincerely lamented. His Grace was the son of Langdale Smithson, esq., and Philadelphia, daughter of W. Reveley, esq., of Newby, co. York. Upon the death of his grandfather (Sir Hugh Smithson, of Stanwick, Bart.), which happened in 1729, he succeeded to the title of baronet, and to his grandfather's estate; and upon the death of his relation Hugh Smithson, esq., of Tottenham, he came into the possession of other estates in Yorkshire and Middlesex; and also succeeded his relation as knight of the shire for the county of Middlesex, which he represented in three parliaments. Upon the death of his father-in-law, Algernon, Duke of Somerset, whose daughter he had married, he succeeded to the title of Earl of Northumberland, the Duke having been created Earl of Northumberland upon his daughter's marriage, with remainder to her husband, and their issue, after the Duke's death. The reason of this creation was as follows: The Duke's mother (whose third husband was the Duke's father) was daughter and sole heiress of Joscelin, the last Earl of Northumberland, which title was become extinct. Being so great an heiress she was married three times while a minor. First, to the Earl of Ogle, who died in a short time after, leaving no issue. She was next married to Thomas Thynne, esq., of Longleat, co. Wilts, but he was assassinated in Pall Mall by some ruffians hired by Count Coningsmarek, whose object was to marry the widow. Her third husband was the Duke of Somerset, and she was still a minor, as was also the Duke, by whom she had the above Algernon, who succeeded his father as Duke of Somerset, and possessed all the Percy estates. He married Miss Thynne, granddaughter of the first Lord Weymouth, and by her had one son and one daughter. The son died unmarried, and the daughter married in 1740 the subject of this article, then Sir Hugh Smithson. The title of Somerset going to another branch of the Seymour family, the title of Northumberland was revived to the Duke's daughter in consideration of her

* *Gentleman's Magazine*, 1786, vol. lvi, p. 617.

descent from the daughter of Joscelin the last Earl of Northumberland. The Percy estate also settled in her, together with several baronies, such as Percy, Lucy, Poynings, Fitz-Payne, Bryan, &c. The Duke of Somerset dying in 1750 Sir Hugh Smithson immediately took his seat in the House of Lords as Earl of Northumberland. In 1752 he was appointed one of the Lords of the Bed-chamber to the late King. In 1757 he was installed Knight of the Garter at Windsor. In 1762 he was appointed Lord Chamberlain to the Queen, and a Privy Counsellor; also Lord Lieutenant of the counties of Middlesex and Northumberland. In 1763 he was appointed Lord Lieutenant of Ireland. In 1766 he was created Duke of Northumberland. In 1778 his Grace was appointed Master of the Horse, which he resigned in 1781. On Dec. 5th, 1776, which was her birthday, his Duchess died, when she had completed her sixtieth year. She was interred in her family vault in St. Nicholas chapel, Westminster Abbey. They had two sons and one daughter.*

The funeral of the Duke of Northumberland, whose death occurred ten years later, was celebrated with great pomp on the 21st of June, 1786, and his remains were also interred in Westminster Abbey with the following imposing list of titles and dignities inscribed on his coffin.

COFFIN-PLATE INSCRIPTION OF HUGH SMITHSON.

(Father of James Smithson.)

“The most high puissant & most noble Prince
Hugh Percy, Duke & Earle of Northumberland
Earl Percy Baron Warkworth & Lovaine & Bart
Lord Lieutenant & Custos Rotulorum of the
Counties of Middlesex & Northumberland, of
the City & Liberty of Westminster & of the
Town & County of the Town of Newcastle
upon Tyne, Vice Admiral of the County of
Northumberland & of all America, one of
the Lords of his Majesty’s most Hon^{ble}
Privy Council, & Knight of the most noble
Order of the Garter.

Died on the 6th Day of June 1786,

In the 74th Year of his Age.”†

NOTE 3.

ACCOUNT OF EARL PERCY, SECOND DUKE OF NORTHUMBERLAND.

(Half brother of James Smithson.)

The first Duke of Northumberland had one daughter, who died unmarried, and two sons—Hugh and Algernon (half brothers of James Smithson)—of whom the elder succeeded his father as the second Duke

* *Gentleman’s Magazine*, 1786, vol. lvi, pp. 529, 530.

† *Miscellanea Genealogica et Heraldica*, London, 1868, p. 271.

of Northumberland. This son was born August 25, 1742, and married, in 1764, Anne, daughter of John, Earl of Bute, but had no issue. The marriage was dissolved, by act of Parliament, in 1779, and in the same year the duke married Miss Frances Julia Burrell, of Beckenham, Kent, by whom he had five daughters and two sons.

Earl Percy, the second Duke of Northumberland, served in the Continental wars under Prince Ferdinand of Brunswick; came to Boston, 1774, in charge of a brigade; commanded the re-enforcements at the battle of Lexington, April 19, 1775; and led the column that reduced Fort Washington, at King's Bridge, near New York, November 16, 1776. He returned to England in May, 1777, devoted himself to improving his estates, died July 10, 1817, and was buried with great pomp in Westminster Abbey.

Of this Earl Percy an oil portrait has recently been presented to the town of Lexington, Massachusetts, by his grandnephew, Algernon George, the sixth and present Duke of Northumberland. The presentation was made through the Rev. Edward G. Porter, of Lexington, who was a guest at the duke's castle in 1879, and was permitted, during his visit, to make extracts from the Percy family papers, especially from the letters written home by Earl Percy during his American experiences. In one of these letters, dated Boston, July 5, 1774, Percy told his parents that the people were very hot-headed and that he feared trouble. On the 27th of the same month he wrote that, owing to the absence of General Gage at Salem, he had been commander-in-chief of the camp at Boston. He also inclosed a view of the town of Boston and the camp, and conveyed the information that the people say much and do nothing. He advised a steadfast government, as the people are worthy subjects, who talk as though they would wipe out the troops every night, but are frightened to death when they see them. The clergy were spoken of as teachers of sedition of the most virulent type. Another letter to his father was dated August 15, 1774, and in this Percy described the scenery around Boston as having the appearance of a park finely laid out. This beauty he considered to be offset by the poverty of the soil, which, in his opinion, was overtilled and scantily fertilized. In this letter symptoms of trouble in the country were noted, and the writer professed his determination to do his whole duty wherever he might be called upon to serve rather than seek preferment where it might most easily be obtained—at the Court of St. James. In a subsequent letter to General Howe, at London, he wrote his serious apprehension of bloodshed and his belief in the necessity of strong government. From the Congress at Philadelphia he said he looked for either a wrangle among its members or for the origin of serious business for the home government. To his father, also, he wrote in the same strain. On the 20th April, 1775, Percy reported to General Gage about the march to Lexington. There, Percy says, he met the troops retreating from Concord, and he ordered two field-pieces to be trained upon the rebels from the heights. The shot from the cannon dispersed them. As the British had but little ammunition, and were fifteen miles from Boston, they were ordered by him to return. They were pressed severely by the rebels until they reached Charlestown, many men being killed. Percy attributed to the rebels cruelty and barbarity, writing that they scalped and cut off the ears of the wounded troops, showing that the British, too, believed that their opponents were cruel and barbarous. Percy, after this disastrous retreat, was of the opinion that the colonists were not an irregular mob, but determined men, accustomed to fight the French and the Indians. The road to Charlestown, Earl Percy said, was taken for the retreat, as it

was feared that the rebels, as they actually did, would have destroyed the bridge over the Charles River. In a letter referring to Bunker Hill, Perey mentions the death of Dr. Warren and that of Major Pitcairn. While Perey was in America he was advanced in rank to be a lieutenant-general, yet he was anxious to return home, and he was allowed to do so near the close of the war. He was the first to suggest making peace with the colonists, and he was selected as minister plenipotentiary to secure such an end. Owing to dissensions in the British cabinet, he declined that honor and retired to private life.

NOTE 4.

NOTICES OF SMITHSON'S PAPERS,

On Tabasheer and Calamine.

(I. From the London Monthly Review.)

“The first paper is an account of tabasheer, an article of importance in the *materia medica* of the ancient Arabians, and still a medicine of great note in many parts of the East, though neither the substance itself nor its origin were known in the Western World. Dr. Russell ascertained it to be a natural concretion from the juice of the bamboo cane, and accordingly it is distinguished in different oriental languages by names signifying bamboo milk, bamboo camphor, and salt of bamboo. Dr. Russell had many green canes brought to him at Madras, and on splitting them, found some joints full of a watery liquid, some with the fluid much diminished and in different states of consistence, and others with some grains or particles of tabasher, either loose, in which case the reeds containing it are known by a rattling sound on shaking them, or adhering to the extremities or sides of the cavity. The quantity of the tabasheer appears to be very inconsiderable, the whole produce of twenty-eight reeds from five to seven feet long, not much exceeding two drachms.”*

The following account of his paper in the Philosophical Transactions is given in the Monthly Review for January, 1792, vol. vii, pp. 75, 76.

“We have seen in a former paper that tabasheer is a vegetable production, formed by spontaneous concretion from a fluid in the cavities of the bamboo cane. Its chemical constitution, however, is very different from what might be expected in a body of such an origin. The experiments of Mr. Macie, very judiciously executed, and here stated in detail, show it to be a siliceous earth, nearly the same thing with common flint that has been attenuated by artificial solution.

“Neither water, alcohol, nor acids will act on it, but by imbibing water it becomes transparent; the white bits in a low degree, the bluish nearly as much so as glass. It dissolves (as the precipitate from liquor silicium does) in caustic alkaline lixivium; and the solution (like the liquor silicium itself, or the precipitate redissolved) becomes gelatinous on exposure to the atmosphere. In the fire it becomes harder, more compact, and diminished in volume, without any loss of weight, except of a little moisture, which it soon recovers from the air. With two-thirds of its weight of fixed alkali, in a platina crucible, it ran into a transparent glass; phosphorated ammoniac and litharge readily acted on

* *Monthly Review* for September, 1791, vol. vi, p. 16.

it; borax more difficultly. It melted, also, at the blow-pipe, where the ashes of the coal happened to touch it, or when rubbed over with calcareous earth; and this appears to be the only property in which it differs materially from flint. This fusibility with calcareous earth, and its contracting and hardening in the fire, might lead us to suspect an admixture of argillaceous earth; but no traces of that earth were discovered by the usual process with vitriolic acid.

"The experiments from which these general results are extracted were made on the finest tabasheer that could be purchased at Hydrabad. Several other specimens were examined, and all the genuine sorts were found to consist of the same earth. That which was taken immediately from the cane became black in the fire from some admixture of vegetable matter, but as soon as the blackness disappeared it was in all respects similar to the foregoing, so that the tabasheer of Hydrabad may be presumed to have suffered a degree of calcination before its exposure to sale.

"That a siliceous earth exists in vegetables is evident from their ashes. Mr. Macie obtained a small portion of this earth from the ashes of charcoal, but found it far more abundant in those of the bamboo cane. He mentions a singular circumstance respecting this vegetable which occurred after his experiments were finished:

"A green bamboo cut in the hot-house of Dr. Pitcairn, at Islington, was judged to contain tabasheer in one of its joints from a rattling noise discoverable on shaking it, but being split by Sir Joseph Banks, it was found to contain not ordinary tabasheer, but a solid pebble about the size of half a pea, so hard as to cut glass."

(II. By Sir Humphrey Davy. From the Journal of the Royal Institution.)

On the 18th of November, a paper, by James Smithson, esq., F. R. S., on the chemical analysis of some calamines, was read.

Much uncertainty has hitherto prevailed on the subject of the composition of calamines. The author was induced to carry on his researches by the hopes of obtaining a more certain knowledge of these ores, and he considers his results as fully proving the necessity for new investigations, and that the opinions which had been adopted concerning them were far removed from the truth. Mr. Smithson's experiments were made upon four different kinds of calamine: the calamine of Bleyberg, that of Somersetshire, that of Derbyshire, and the electrical calamine.

The calamine from Bleyberg was white, and had a stalaetitical form; its specific gravity was 3.584. It became yellow under the blowpipe; and when exposed to the heat of the interior blue flame was gradually dissipated. It dissolved with effervescence in sulphuric acid, muriatic acid, and acetous acid. It lost by heat rather more than one-fourth of its weight. It afforded oxide of zinc, carbonic acid, and water, in the proportion of 714, 135, and 151; there was besides found in it a minute portion of the carbonates of lead and lime; but these the author considers as accidentally mixed with the ore, and not in combination with the other ingredients.

The calamine from Somersetshire was of a mammillated form. Its color was brown externally and greenish yellow internally; its specific gravity was 4.336. It dissolved in sulphuric acid, with effervescence: and when analyzed by means of reagents, afforded in 1,000 parts, 352 of carbonic acid, and 648 of oxide of zinc.

The Derbyshire calamine was in small crystals, of a pale yellow color; their specific gravity was 4.333. When analyzed, by solution in sul-

pluric acid, and the action of heat, 1,000 parts of them were found to contain, of carbonic acid 348, of oxide of zinc 652.

The electrical calamine, which Mr. Smithson examined, was from Regbania, in Hungary. It was in the form of regular crystals; the specific gravity of which was 3.434.

They became electrical by heat, and when exposed to the flame of the blowpipe decrepitated and shone with a green light. The electrical calamine differs materially in composition from the other specimens, in being formed chiefly of quartz and oxide of zinc, which, according to the author, are in chemical union. One thousand parts of it gave 250 parts of quartz, 683 of oxide of zinc, and 44 of water; the loss being 23 parts.

From his series of experiments on the calamines, Mr. Smithson has been able to deduce, with a considerable degree of accuracy, the composition of sulphate of zinc, which, when free from combined water, he considers as composed of equal parts of sulphuric acid and oxide of zinc.

In reasoning generally upon the constitution of salts of zinc, Mr. Smithson offers some new observations in relation to affinity; and he thinks that the proximate constituent parts of bodies are not absolutely united in the remote relations to each other, usually indicated by analyses, but that they are universally very considerable parts of the compound, probably seldom less than 2. He applies this theory in accounting for the presence of water in the calamine of Bleyberg, in which there is not sufficient carbonic acid to saturate the oxide of zinc; and he considers this ore as probably composed of a peculiar combination of water with the oxide of zinc, which he names hydrate of zinc, and of carbonate of zinc to each other in the proportions of 3 to 2.

All the calamines, when long exposed to the heat of the blowpipe, are dissipated, with the production of white flowers. This circumstance, the author thinks, ought not to be attributed to an immediate volatilization of the oxide of zinc, but rather to the deoxidation of this substance by the charcoal and combustible matter of the flame, and the consequent immediate sublimation and combustion of the metallic zinc, to which combustion the phosphorescence of calamines under the blowpipe may be owing.

The fibrous form of the flowers of zinc, produced during the action of the blowpipe upon calamine, Mr. Smithson attributes to the crystallization taking place during their mechanical suspension in the air; and he thinks that the fluid state is not at all necessary to the production of crystals, and that the only requisite for this operation is a freedom of motion in the masses which tend to unite, allowing them to obey that sort of polarity which occasions them to present to each other the parts adapted to mutual union.*

NOTE 5.

ILLUSTRATIONS OF PRESENTATION OF BOOKS BY SCIENTIFIC AUTHORS TO SMITHSON.

"Mr. Smithson. Hommage respectueux de l'auteur."

Nouveau système de minéralogie. Par J. J. Berzelius. Paris, 1819.

"Mr. Smithson. Hommage de l'auteur, Gay-Lussac."

Mémoire sur l'iode. 1814.

* *Journal of the Royal Institution of Great Britain*, 1802, Vol. 1, p. 299.

"M. Smithson. From the translator."

Observations on the mineralogical and chemical history of the fossils of Cornwall. By M. H. Klaproth. Translated by Dr. John Gottlieb Grosechke. London, 1787.

"M. Smithson. From the author."

Chemical account of various dropsical fluids. By Alex. Marcet. 1811.

"M. Smithson. From the author."

Letters to Sir Joseph Banks, president of the Royal Society, on the subject of cochineal insects discovered at Madras. By James Anderson, M. D. 1788.

"Mons. de Smithson. Hommage de l'auteur."

Mémoire sur la montagne de sel gemme de Cardoune en Espagne. Par P. Louis Cordier.

"À Mons. Smithson, de la Société royale de Londres. Hommage de l'auteur."

Observations sur la simplicité des lois auxquelles est soumise la structure des cristaux. Par M. Haiiy.

"À Mons. de Smithson. Hommage de l'auteur."

Mémoire sur les substances minérales dites en masse qui entrent dans la composition des roches volcaniques. Par P. Louis Cordier.

"Mons. Smithson. De la part de l'auteur."

Mémoire sur les pierres météoriques. Par M. Fleurian de Bellevue. 1820.

"À Monsieur Smithson, amateur éclairé de la chimie et de la minéralogie. Hommage respectueux de l'auteur de cet opuscule, J. A. H. Lucas, membre des sociétés géologique de Londres et Wernerienne d'Edimbourg."

De la minéralogie. 1818.

"Mr. Smithson. From the author."

On some of the combinations of oxymuriatic gas and oxygene, and on the chemical relations of these principles to inflammable bodies. By Humphrey Davy, esq., LL. D. London, 1811.

NOTE 6.

APPRECIATION OF SMITHSON BY BERZELIUS.

Berzelius makes the following honorable mention of Smithson :

"Dans mon *Essai pour établir un système électro-chimique*, avec une nomenclature appropriée (Journal de Physique, Ann. 1811), j'ai fait mention des combinaisons de silice avec les autres oxides, comme de sels que j'ai nommés silicates. Il eût sans doute été prématuré alors d'essayer de diriger davantage l'attention vers les silicates minéralogiques, parce que le cahos où se trouvaient ces derniers eût servi plutôt à prévenir contre de pareilles idées, surtout comme la nature de ce traité ne comportait pas une exposition plus étendue du sujet. J'ai appris depuis, avec une vraie satisfaction, que M. SMITHSON, l'un des minéralogistes les plus expérimentés de l'Europe, sans avoir eu connaissance de mon *Essai*, a publié une idée semblable dans un *Mémoire* [Feb. 9, 1811] sur la nature de la natrolite et de la mésotype. On ne pourra disconvenir qu'une pareille coïncidence dérivée d'une part de la chimie seule, et de l'autre d'un point de vue d'analyse minéralogique, ne fournisse une preuve très-

forte de la justesse de l'idée, ce qui me fait espérer qu'aucun minéralogiste, au courant de l'état actuel de la chimie, ne conservera des doutes."*

Berzelius gives in his "Systematic enumeration of minerals": "*Zinc carbonate*. $ZnCO_3$. Smithson, Phil. Trans., 1803, 17."†

Under *Zinc calamine*, he says:

"Nous devons la connaissance de la composition, tant des carbonates que du silicate de l'oxide de zinc, à un excellent travail de M. SMITHSON, inséré dans les Transact. phil., 1803."‡

NOTE 7.

EXTRACTS FROM SMITHSON'S WRITINGS.

The following extracts from Smithson's papers illustrate his breadth of view and style of composition:

"A knowledge of the productions of art, and of its operations, is indispensable to the geologist. Bold is the man who undertakes to assign effects to agents with which he has no acquaintance, which he never has beheld in action, to whose indisputable results he is an utter stranger, who engages in the fabrication of a world, alike unskilled in the forces and the materials which he employs."§

"More than commonly incurious must he be who would not find delight in stemming the stream of ages, returning to times long past, and beholding the then existing state of things and of men. In the arts of an ancient people much may be seen concerning them, the progress they had made in knowledge of various kinds, their habits, and their ideas on many subjects. And products of skill may likewise occur, either wholly unknown to us, or superior to those which now supply them.||

"A want of due conviction that the materials of the globe and the products of the laboratory are the same, that what nature affords spontaneously to men, and what the art of the chemist prepares, differ no ways but in the sources from whence they are derived, has given to the industry of the collector of mineral bodies an erroneous direction."¶

"No observer of the earth can doubt that it has undergone very considerable changes. Its strata are everywhere broken and disordered, and in many of them are inclosed the remains of innumerable beings which once had life, and these beings appear to have been strangers to the climates in which their remains now exist. In a book held by a large portion of mankind to have been written from divine inspiration, an universal deluge is recorded. It was natural for the believers in this deluge to refer to its action all or many of the phenomena in question, and the more so as they seemed to find in them a corroboration of the event. Accordingly, this is what was done as soon as any desire to account for these appearances on the earth became felt. The success, however, was not such as to obtain the general assent of the learned; and the attempt fell into neglect and oblivion. . . .

* *Nouveau système de minéralogie*, par J. J. Berzelius, Paris, 1819, p. 23.

† Same work; p. 205.

‡ Same work; p. 255.

§ On a fibrous metallic copper. *Smithsonian Miscell. Coll.*, No. 327, p. 70.

|| An examination of some Egyptian colors. *Smithsonian Miscell. Coll.*, No. 327, p. 101.

¶ On some compounds of Fluorine. *Smithsonian Miscell. Coll.*, No. 327, p. 94.

"I have yielded to a sense of the importance of the subject in more than one respect, and of the uncertainty when I shall acquire ampler information at more voluminous sources—to a conviction that it is in his knowledge that man has found his greatness and his happiness, the high superiority which he holds over the other animals which inhabit the earth with him, and consequently that no ignorance is probably without loss to him, no error without evil, and that it is therefore preferable to urge unwarranted doubts, which can only occasion additional light to become elicited, than to risk by silence letting a question settle to rest, while any unsupported assumptions are involved in it."*

"We have no real knowledge of the nature of a compound substance until we are acquainted with its proximate elements, or those matters by whose direct or immediate union it is produced; for these only are its true elements. Thus, though we know that vegetable acids consist of oxygen, hydrogen, and carbon, we are not really acquainted with their composition, because these are not their proximate, that is, their true, elements, but are elements of their elements, or elements of these. It is evident what would be our acquaintance with sulphate of iron, for example, did we only know that a crystal of it consisted of iron, sulphur, oxygen, and hydrogen, or of carbonate of lime, if only that it was a compound of lime, carbon or diamond, and oxygen. In fact totally dissimilar substances may have the same ultimate elements, and even probably in precisely the same proportions; nitrate of ammonia and hydrate of ammonia or crystals of caustic volatile alkali, both ultimately consist of oxygen, hydrogen, and azote.

"It is evident that there must be a precise quantity in which the elements of compounds are united together in them; otherwise, a matter which was not a simple one would be liable, in its several masses, to vary from itself, according as one or other of its ingredients chanced to predominate. But chemical experiments are unavoidably attended with too many sources of fallacy for this precise quantity to be discovered by them; it is therefore to theory that we must owe the knowledge of it. For this purpose an hypothesis must be made and its justness tried by a strict comparison with facts. If they are found at variance, the assumed hypothesis must be relinquished with candor as erroneous; but should it, on the contrary, prove, on a multitude of trials, invariably to accord with the results of observation, as nearly as our means of determination authorize us to expect, we are warranted in believing that the principle of nature is obtained, as we then have all the proofs of its being so which men can have of the justness of their theories: a constant and perfect agreement with the phenomena, as far as can be discovered."†

"If the theory here advanced has any foundation in truth, the discovery will introduce a degree of rigorous accuracy and certainty into chemistry of which this science was thought to be ever incapable, by enabling the chemist, like the geometrician, to rectify by calculation the unavoidable errors of his manual operations, and by authorizing him to eliminate from the essential elements of a compound those products of its analysis whose quantity cannot be reduced to any admissible proportion. A certain knowledge of the exact proportions of the constituent principles of bodies may likewise open to our view harmonious analogies between the constitutions of related objects, general laws, &c.,

* Observations on Penn's theory of the formation of the Kirkdale Cave. *Smithsonian Miscell. Coll.*, No. 327, pp. 103, 104.

† On the composition of the compound sulphuret from Huel Boys. *Smithsonian Miscell. Coll.*, No. 327, pp. 35, 37.

which at present totally escape us. In short, if it is founded in truth, its enabling the application of mathematics to chemistry cannot but be productive of material results.”*

“The name imposed on a substance by the discoverer of it ought to be held in some degree sacred, and not altered without the most urgent necessity for doing it. It is but a feeble and just tribute of respect for the service which he has rendered to science.”†

NOTE 8.

CATALOGUE OF THE LIBRARY OF JAMES SMITHSON.

Deposited in the Smithsonian Institution.

- Anderson, Dr. James. Letters to Sir Joseph Banks, baronet, president of the Royal Society, on the subject of cochineal insects discovered at Madras. 26 pp. 8°. *Madras*, 1788.
- Anderson, Dr. James. Letters on cochineal continued. 36 pp. 8°. *Madras*, 1789.
- Anfrye et d'Arcet. Description d'un petit fourneau à coupelle. 48 pp. 8°. *Paris*, 1813.
- Antilogies et fragmens philosophiques, etc. Tomes i-iv. 604, 592, 600, 600 pp. 12°. *Amsterdam*, 1774.
- Baker, Henry. The microscope made easy. 340 pp. 8°. *London*, 1743.
- Becquerel, A. C. Expériences sur le développement de l'électricité par la pression; lois de ce développement. 32 pp. 8°. *Paris*.
- Becquerel, A. C. Sur les fils très-fins de platine et d'acier; et sur la distribution du magnétisme libre dans ces derniers. pp. 33-52. 8°. *Paris*.
- Bellevue, Fleurian de. Mémoire sur l'action du feu dans les volcans, ou sur divers rapports entre leurs produits, ceux de nos fourneaux, les météorites et les roches primitives. 62 pp. 4°. 1805.
- Bellevue, Fleurian de. Mémoire sur les cristaux microscopiques, et en particulier sur la séméline, la mélite, la pseudo-sommeite et le selce-Romano. 24 pp. 4°. *Paris*, 1798.
- Bellevue, Fleurian de. Mémoire sur les pierres météoriques, et notamment sur celles tombées près de Jauzac, au mois de juin 1819. 24 pp. 4°. *Paris*, 1821.
- Bergman, M. T. Opuscules chimiques et physiques. Tomes i, ii. 479, 543 pp. 8°. *Dijon*, 1780, 1785.
- Berthoud, F. L'Art de régler les pendules et les montres. Quatrième édition. 126 pp. 12°. *Paris*, 1811.
- Berzelius, J. J. De l'emploi du chalumeau dans les analyses chimiques et les déterminations minéralogiques. Traduit du Suédois, par F. Fresnel. 406 pp. 8°. *Paris*, 1821.
- Berzelius, J. J. Nouveau système de minéralogie. Traduit du Suédois. 321 pp. 8°. *Paris*, 1819.
- Bibliotheca Parisiana. A catalogue of a collection of books formed by a gentleman in France. 172 pp. 8°. *London*, 1791.
- Bray, Wm. Sketch of a tour into Derbyshire and Yorkshire. Second edition. 408 pp. 8°. *London*, 1783.
- Breve notizia di un viaggiatore sulle incrostazioni silicee termali d'Italia, e specialmente di quelle dei Campi Flegrei nel Regno di Napoli. 35 pp. 8°.

* A chemical analysis of some Calamines. *Smithsonian Miscell. Coll.*, No. 327, p. 29.

† On the composition of Zeolite. *Smithsonian Miscell. Coll.*, No. 327, p. 45.

- Bruxelles, Description de la ville de; enrichi du plan de la ville et de perspectives. 192 pp. 8°. *Bruxelles*, 1794.
- Bullock, Wm. A descriptive catalogue of the exhibition entitled Ancient and Modern Mexico. 32 pp. 8°. *London*.
- Camus, A. G. Voyage fait dans les départements nouvellement réunis. Tomes i, ii. 198, 229 pp. 24°. *Paris*, 1803.
- Catalogue of gems in the collection of Mr. Findlay, Oriental Museum. 43 pp. 12°. *London*, 1802.
- Catalogue des livres manuscrits et imprimés de la bibliothèque du feu M. F. A. Quetant. 11 pp. 8°. (Imperfect.) *Paris*, 1823.
- Catalogue (A) of a splendid and most select collection of foreign minerals, which will be sold by auction by Mr. Thomas. 59 pp. 8°. *London*, 1826.
- Catalogue of a valuable collection of minerals, the property of Mr. Heuland; to be sold at auction by Mr. Thomas. 27 pp. 8°. 1826.
- Chambers, E. Cyclopædia, or an universal dictionary of arts and sciences, containing an explanation of the terms and an account of the several subjects in the liberal and mechanic arts, and the sciences, human and divine; with a supplement and modern improvements incorporated in one alphabet by A. Rees. Vols. i-v. Folio. *London*, 1795-1797.
- Claubry, Henri François Gaultier. Recherches sur l'existence de l'iode dans l'eau de la mer et dans les plantes qui produisent la soude de varecs. 40 pp. 4°. *Paris*, 1815.
- Conformité des coutumes des Indiens orientaux, par M. de la C. 263 pp. 12°. *Bruxelles*, 1704.
- Constant, Benjamin de. De la doctrine politique qui peut réunir les partis en France. 43 pp. 8°. *Paris*, 1816.
- Cookery, A new system of domestic, formed upon principles of economy and adapted to the use of private families. By a Lady. 375 pp. 8°. *London*, 1810.
- Cordier, Louis. Mémoire sur la montagne de sel gemme de Cardonne en Espagne. 15 pp. 4°. *Paris*, 1816.
- Cordier, Louis. Mémoire sur les substances minérales dites en masse qui entrent dans la composition des roches volcaniques de tous les âges. 87 pp. 4°.
- Cronstedt, Axel F. An essay towards a system of mineralogy. Translated from the original Swedish, with notes by G. von Engestrom; to which is added a treatise on the pocket laboratory, containing an easy method, used by the author, for trying mineral bodies, written by the translator. The whole revised and corrected, with some additional notes, by E. M. Da Costa. 365 pp. 8°. *London*, 1770.
- Cronstedt, Axel F. An essay towards a system of mineralogy. Translated from the Swedish, with annotations and an additional treatise on the blow-pipe, by Gustav Engestrom. Enlarged and improved by John Hyacinth de Magellan. Vols. i, ii. 1095 pp. 8°. *London*, 1788.
- Davy, Humphrey. On some of the combinations of oxymuriatic gas and oxygene, and on the chemical relations of those principles to inflammable bodies. 35 pp. 4°. *London*, 1811.
- Delaméthèrie, J. C. Leçons de minéralogie. Tomes i, ii. 572, 630 pp. 8°. *Paris*, 1812.
- De l'Isle, Romé. Cristallographie, ou description des formes propres à tous les corps du règne minéral, dans l'état de combinaison saline, pierreuse ou métallique. Tome iv. 96 pp. 8°. *Paris*, 1783.

- De l'Isle, Romé. Description méthodique d'une collection de minéraux du cabinet M. D. R. D. L. 336 pp. 8°. *Paris*, 1773.
- Dhombres-Firmas, L. A. Nivellement barométrique du département du Gard. 33 pp. 8°. *Nismes*, 1811.
- Dubois, C. M. Nouveau voyage de France, avec 24 itinéraires pour les différentes parties de l'empire. Tomes i, ii. 439, 501 pp. 12°. *Paris*, 1806.
- [Dutens, L.] Mémoires d'un voyageur qui se repose, par M. L. D. Troisième édition. Tomes i-iii. 369, 329, 354 pp. 8°. *Londres*, 1807.
- École d'enseignement mutuel de l'Eglise réformée de Paris. Rapport sur l'état de l'école au 31 décembre 1818. 25 pp. 12°. *Paris*, 1819.
- Galignani's traveller's guide through Holland and Belgium. 410 pp. 32°. *Paris*, 1822.
- Garnerin, Madame. A circumstantial account of the three last aërial voyages made by M. Garnerin. 36 pp. 12°. *London*.
- Gaultier, L. Exercices sur la construction logique des phrases et des périodes contenues dans le texte des six premières époques de l'histoire universelle de Buffon. 60 pp. 24°. *Paris*, 1809.
- Gay-Lussac. Mémoire sur l'iode. 160 pp. 8°. 1814.
- [Glass, Mrs.] The art of cooking made plain and easy. By a Lady. New edition. 438 pp. 8°. *London*, 1770.
- Gmelin, L. Indagationem chemicam pigmenti nigri oculorum taurinorum et vitulinorum adnexis quibusdam in id animadversionibus physiologicis. 72 pp. 12°. *Gættingæ*, 1812.
- Gmelin, L. Observationes oryctognosticæ et chemicæ de Hauyna, etc. 58 pp. 8°. *Heidelbergæ*, 1814.
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NOTE 9.

NOTICES OF THE CITY OF WASHINGTON, FOUND IN BOOKS IN SMITHSON'S LIBRARY.

One of the books in Smithson's library is "Struggles through life, exemplified in the various travels and adventures in Europe, Asia, Africa, and America. By Lieut. John Harriott." 8°. 2 vols. *London*, 1808.

Mr. Harriott (vol. ii, pp. 259-260) says:

"Respecting this intended city [Washington], I question much whether there ever will be a sufficient number of houses built to entitle it to the name of a great city. Reckoning up all the houses I could see or hear of as belonging to the new city of Washington, they did not amount to eighty. Having seen and examined everything, and gained all the information I could concerning this so much talked-of city, I sat down between the President's house and the Capitol, and entered the following in my minute-book, as my opinion, viz:

"Should the public buildings be completed, and enterprising individuals risk considerably in building houses; should the Union of the States continue undisturbed; should Congress assemble for a number of years, until the national bank and other public offices necessarily draw the moneyed interests to it, the city of Washington, in the course of a century, may form a focus of attraction to mercantile and trading people sufficient to make a beautiful commercial city deserving the name of its founder; but I apprehend so many hazards as to be most unwilling to venture any part of my property in the undertaking."

The other work in Smithson's library on America was by Isaac Weld, the Secretary of the Royal Society.

"Mr. Weld," says the *London Monthly Review*,* "feeling in common with the inhabitants of Europe the desolations of war, and trembling at the frightful progress of anarchy and confusion, was induced to cross the Atlantic for the purpose of examining into the truth of the various accounts which have been given of the flourishing condition of the United States."

Of Washington Mr. Weld remarks: "Were the houses that have been built situated in one place, all together, they would make a very respectable appearance, but scattered about as they are, a spectator can scarcely perceive anything like a town. Excepting the streets and avenues and a small part of the ground adjoining the public buildings, the whole place is covered with trees. To be under the necessity of going through a deep wood for one or two miles, perhaps, in order to see a next-door neighbor, and in the same city, is a curious and, I believe, a novel circumstance. . . . The number of inhabitants is 5,000. . . . The people who are opposed to the building of the city of Washington maintain that it can never become a town of any importance, and that all such as think to the contrary have been led astray by the representations of a few enthusiastic persons. . . . They insist that if the removal of the seat of government from Philadelphia should take place, a separation of the States will inevitably follow."

Notwithstanding the condition of the city of Washington at the beginning of the present century, Mr. Weld indulged hopes of its future greatness. He remarks:

"Considering the vastness of the territory which is opened to the Federal city by means of water communication, considering that it is capable from the fertility of its soil of maintaining three times the number of inhabitants that are to be found at present in all the United States, and that it is advancing at the present time more rapidly in population than any other part of the whole continent, there is good foundation for thinking that the Federal city, as soon as navigation is perfected, will increase most rapidly, and that at a future day, if the affairs of the United States go on as prosperously as they have done, it will become the grand emporium of the West, and rival in magnitude and splendor the cities of the whole world."†

This view was undoubtedly entertained by Smithson, and experience has shown how well-founded were his anticipations. The wisdom of his selection has been fully justified.

* *Monthly Review* for September, 1799. London.

† Isaac Weld. *Travels through North America*. 1807. Vol. i, p. 80.



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